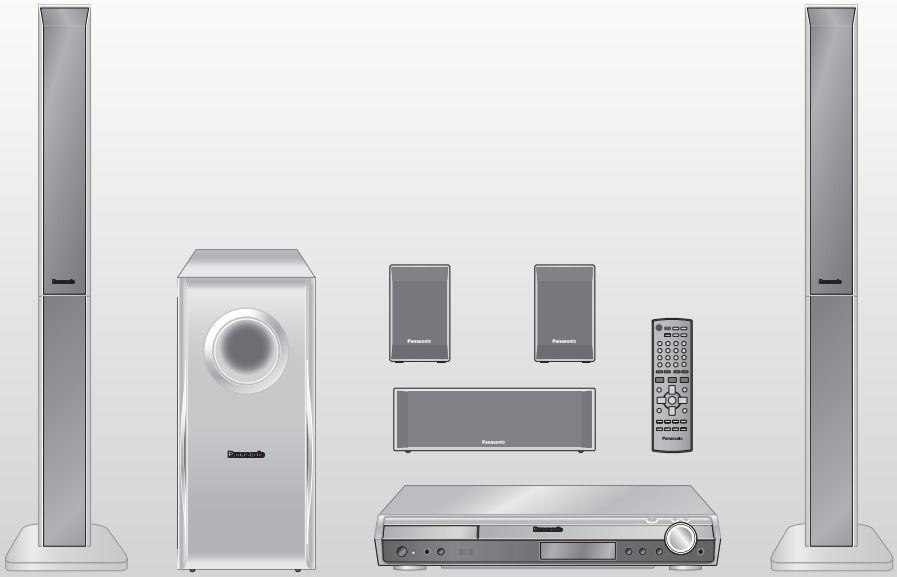
HT855En.book Page 1 Tuesday, March 7, 2006 2:33 PM

Panasonic



# Operating Instructions

## *DVD Home Theater Sound System*

Model No. **SC-HT855**


*High-quality picture* page **8**
HDMI capability, Advanced progressive scan and more.

*Compatible with a variety of media formats* page **13**
DVD-RAM, DVD-Audio, DVD-Video, DivX and more.

*High-performance sound effects* page **30**
Sound quality enhancement, Bass enhancement and more.


**Region number**
The player plays DVD-Video marked with labels containing the region number "**2** " or "**ALL**".

**Example:**

DVD AUDIO / VIDEO

COMPACT disc DIGITAL VIDEO

RAM COMPATIBLE PLAYER

HDMI™ HIGH-DEFINITION MULTIMEDIA INTERFACE

**Before connecting, operating or adjusting this product, please read the instructions completely.**
**Please keep this manual for future reference.**

E

RQT8606-B

# *Dear customer*

Thank you for purchasing this product. For optimum performance and safety, please read these instructions carefully.

**Operations in these instructions are described mainly with the remote control, but you can perform the operations on the main unit if the controls are the same.**

| System | SC-HT855 |
|---|---|
| Main unit | SA-HT855 |
| Front speakers | SB-FS540 |
| Center speaker | SB-PC540 |
| Surround speakers | SB-FS741 |
| Subwoofer | SB-W540 |



## CAUTION!

**THIS PRODUCT UTILIZES A LASER.**
**USE OF CONTROLS OR ADJUSTMENTS OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.**
**DO NOT OPEN COVERS AND DO NOT REPAIR YOURSELF. REFER SERVICING TO QUALIFIED PERSONNEL.**

## WARNING:

**TO REDUCE THE RISK OF FIRE, ELECTRIC SHOCK OR PRODUCT DAMAGE, DO NOT EXPOSE THIS APPARATUS TO RAIN, MOISTURE, DRIPPING OR SPLASHING AND THAT NO OBJECTS FILLED WITH LIQUIDS, SUCH AS VASES, SHALL BE PLACED ON THE APPARATUS.**

## CAUTION!

- **DO NOT INSTALL OR PLACE THIS UNIT IN A BOOKCASE, BUILT-IN CABINET OR IN ANOTHER CONFINED SPACE. ENSURE THE UNIT IS WELL VENTILATED. TO PREVENT RISK OF ELECTRIC SHOCK OR FIRE HAZARD DUE TO OVERHEATING, ENSURE THAT CURTAINS AND ANY OTHER MATERIALS DO NOT OBSTRUCT THE VENTILATION VENTS.**
- **DO NOT OBSTRUCT THE UNIT'S VENTILATION OPENINGS WITH NEWSPAPERS, TABLECLOTHS, CURTAINS, AND SIMILAR ITEMS.**
- **DO NOT PLACE SOURCES OF NAKED FLAMES, SUCH AS LIGHTED CANDLES, ON THE UNIT.**
- **DISPOSE OF BATTERIES IN AN ENVIRONMENTALLY FRIENDLY MANNER.**

CLASS 1
LASER PRODUCT

**LUOKAN 1 LASERLAITE**
**KLASS 1 LASER APPARAT**

(Side of product)

CAUTION – LASER RADIATION WHEN OPEN. DO NOT STARE INTO BEAM. FDA 21 CFR / Class
CAUTION – CLASS 1M VISIBLE AND INVISIBLE LASER RADIATION WHEN OPEN. DO NOT VIEW DIRECTLY WITH OPTICAL INSTRUMENTS. IEC60825-1 +A2/ Class 1M
VARNING – KLASS 1M SYNLIG OCH OSYNLIG LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD. BETRAKTA EJ STRÅLEN DIREKT GENOM OPTISKT INSTRUMENT.
FORSIGTIG – SYNLIG OG USYNLIG LASERSTRÅLING KLASS 1M. NÅR LÅGET ER ÅBENT. UNDGÅ AT SE LIGE PÅ MED OPTISKE INSTRUMENTER.
VARO! – AVATTAESSA OLET ALTTIINA LUOKAN 1M NÄKYVÄÄ JA NÄKYMÄTÖNTÄ. LASERSÄTEILYÄ. ÄLÄ KATSO OPTISELLA LAITTEELLA SUORAAN SÄTEESEEN.
VORSICHT – SICHTBARE UND UNSICHTBARE LASERSTRAHLUNG KLASSE 1M, WENN ABDECKUNG GEÖFFNET. NICHT DIREKT MIT OPTISCHEN INSTRUMENTEN BETRACHTEN.
ATTENTION – RAYONNEMENT LASER VISIBLE ET INVISIBLE. CLASSE 1M, EN CAS D'OUVERTURE. NE PAS REGARDER DIRECTEMENT A L'AIDE D'INSTRUMENTS D'OPTIQUE.
注意 – ここを開くと可視及び不可視レーザ光が出ます。ビームを見たり、触れたりしないでください。
注意 – 打开时有可见及不可见激光辐射，避免光束照射。
GB7241.1-2001/3B 类
RQLXS0075

(Inside of product)
(Produktets innside)
(Tuotteen sisällä)

# Accessories

Please check and identify the supplied accessories.

☐ **1 Remote control**
(N2QAYZ000003)

☐ **2 Remote control batteries**

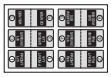
☐ **1 AM loop antenna**

☐ **1 FM indoor antenna**

☐ **1 Video cable**

☐ **Speaker cables**
1×short cable
2×long cables

☐ **2 Sheets of speaker cable stickers**



☐ **2 Stands**

☐ **2 Bases**

☐ **8 Screws**

☐ **2 Cover plates**

☐ **1 AC mains lead**

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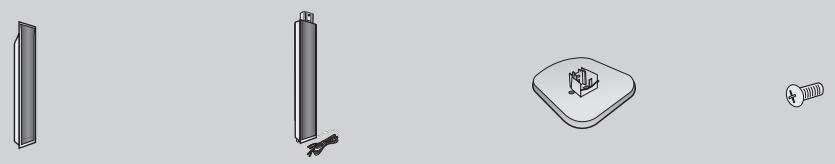
# STEP 1 Assembling the front speakers

**The supplied stands are specially designed for attachment to Panasonic SB-FS540 front speakers. Use only as indicated in this setup.**

**Preparation**

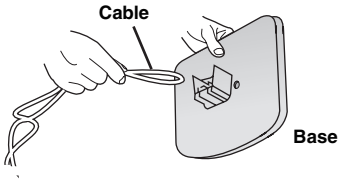
- To prevent damage or scratches, lay down a soft cloth and perform assembly on it.
- For assembly, use a Phillips-head screwdriver.
- Make sure you have all the indicated components before starting assembly, setup, and connection.
- There is no difference between the right and left speakers and stands.
- For optional wall mount, refer to page 6.

**2 Front speakers (with cover plate)** | **2 Stands (with cable)** | **2 Bases** | **8 Screws**

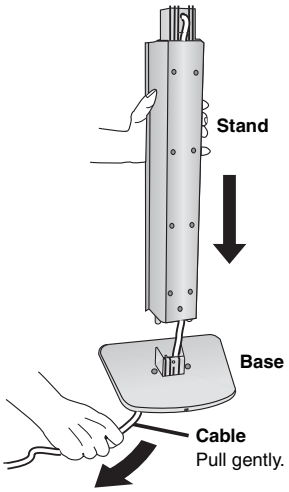


## 1 Attach the stand to the base.

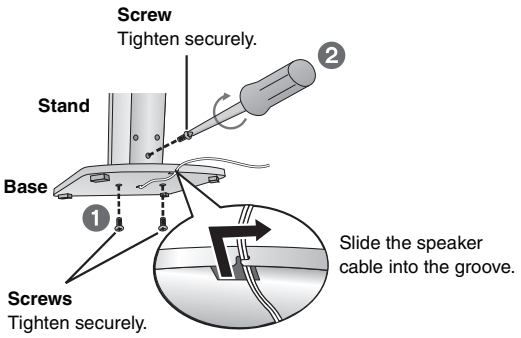
① **Thread the speaker cable through the base.**
For quicker threading, loosely fold the cable in half (do not crease), pass the folded portion through the hole, and then pull the rest of the cable through the base.




② **Attach the stand to the base while gently pulling on the end of the speaker cable.**

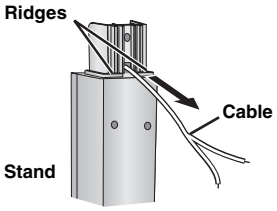



## 2 Secure the stand to the base.

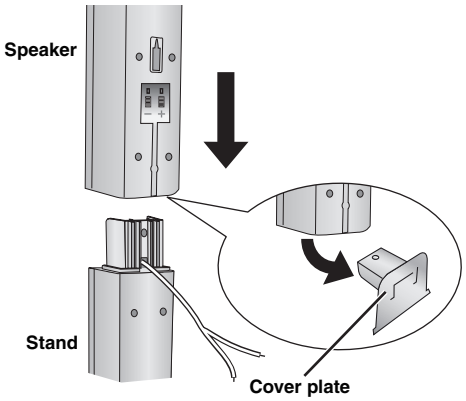



## 3 Attach the speaker to the stand.

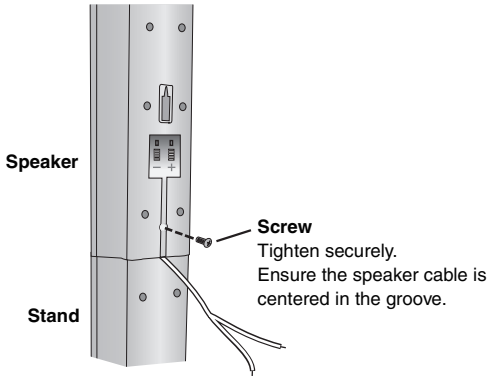
① **Pull out the end of the speaker cable and position it between the ridges.**



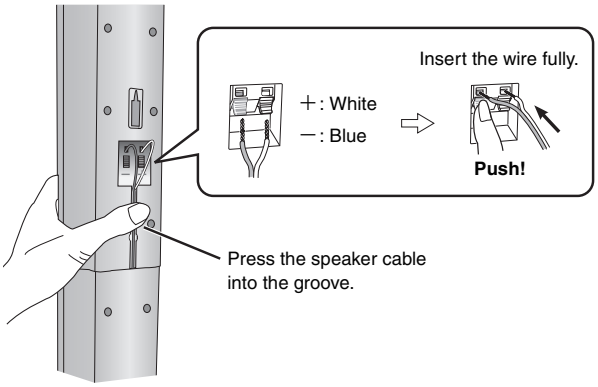

② **Attach the speaker to the stand.**



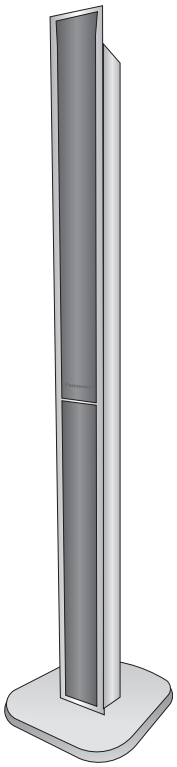
**4** **Secure the speaker to the stand.**




**5** **Connect the speaker cable.**

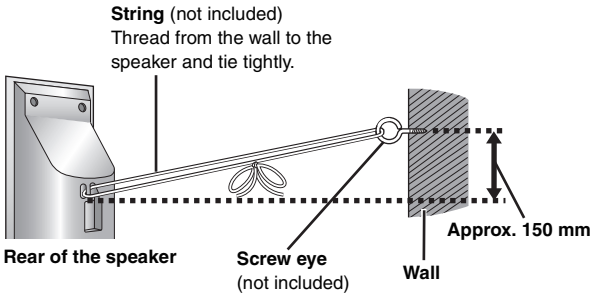



**Assembled!**



## ■ *Preventing the speakers from falling*

- You will need to obtain the appropriate screw eyes to match the walls or pillars to which they are going to be fastened.
- Consult a qualified housing contractor concerning the appropriate procedure when attaching to a concrete wall or a surface that may not have strong enough support. Improper attachment may result in damage to the wall or speakers.



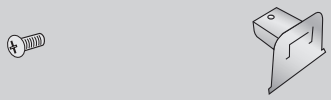
## Speaker installation options

### ■ *Attaching to a wall*

You can attach all of the speakers (except subwoofer) to a wall.

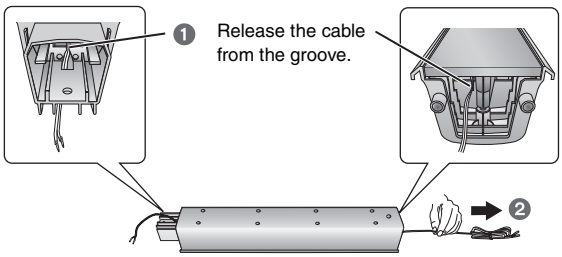
- The wall or pillar on which the speakers are to be attached should be capable of supporting over 10 kg per screw. Consult a qualified building contractor when attaching the speakers to a wall. Improper attachment may result in damage to the wall and speakers.
- When mounting the front speakers to a wall, we recommend using a string (not included) to prevent it from falling.

**2 Screws** **2 Cover plates**



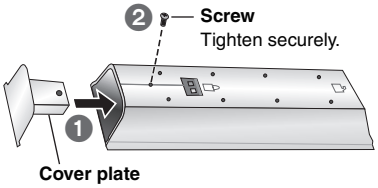
**Preparation for front speakers**

1 Remove the speaker cable from the stand.

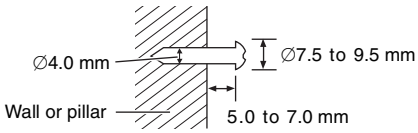



2 Connect the cable (➜ page 5).

**① Attach the cover plate to the front speaker.**

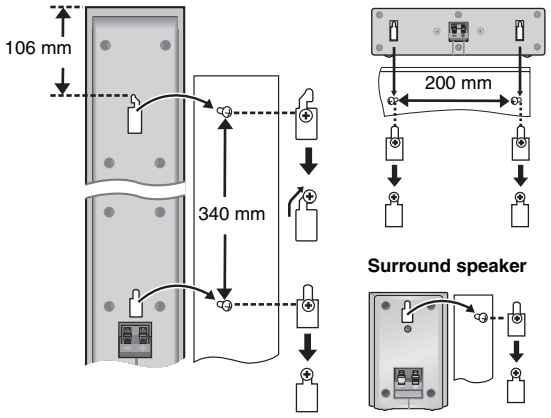



**② Drive a screw (not included) into the wall.**

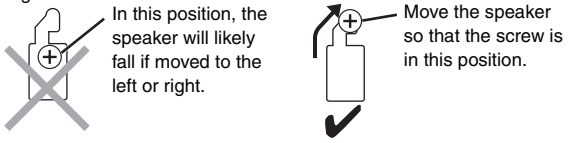



**③ Fit the speaker securely onto the screw(s) with the hole(s).**

**Front speaker** **Center speaker**

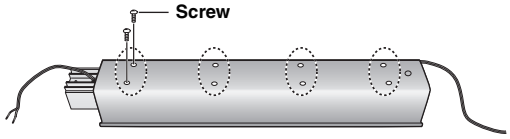



e.g.

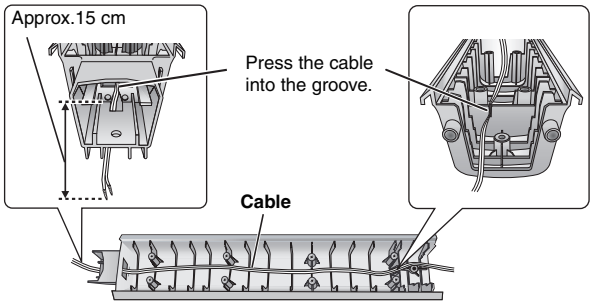

In this position, the speaker will likely fall if moved to the left or right.
Move the speaker so that the screw is in this position.

**Reattaching the speaker cable to the stand**

1 Remove the eight screws from the stand, and remove the speaker net.




2 Position the cable.




3 Attach the speaker net with the screws.

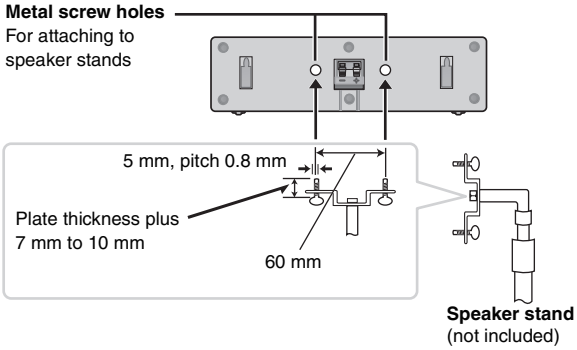
### ■ *Fitting speaker stands* (not included)

**(Except front speakers)**

Ensure the stands meet these conditions before purchasing them. Note the diameter and length of the screws and the distance between screws as shown in the diagram.

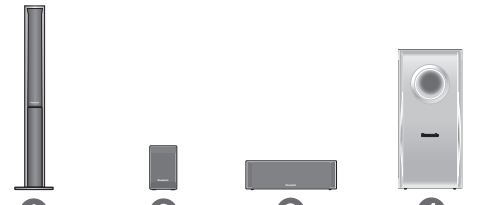
- The stands must be able to support over 10 kg.
- The stands must be stable even if the speakers are in a high position.

e.g. **Center speaker**

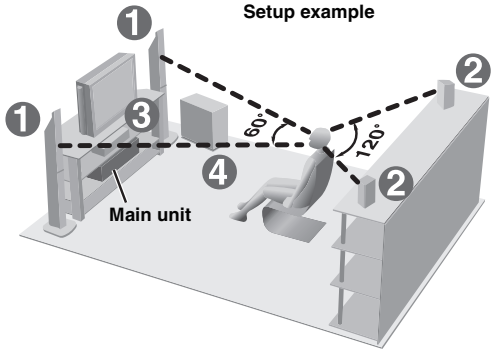


# STEP 2 Positioning the speakers

How you set up your speakers can affect the bass and the sound field. Note the following points:
- Place speakers on flat secure bases.
- Placing speakers too close to floors, walls, and corners can result in excessive bass. Cover walls and windows with thick curtains.
- Left and right speakers are interchangeable, but front and surround speakers are not.
- Place the front, center, and surround speakers at approximately the same distance from the seating position.
  The angles in the diagram are approximate.




**Setup example**




**● Use only supplied speakers**
Using other speakers can damage the unit, and sound quality will be negatively affected.
- Set the speakers up on an even surface to prevent them from falling. Take proper precautions to prevent the speakers from falling if you cannot set them up on an even surface.

### Main unit

**Note**
- Keep your speakers at least 10 mm away from the system for proper ventilation.
- To allow for proper ventilation and to maintain good airflow around the main unit, position it with at least 5 cm of space on all sides.
- Do not block the ventilation holes of the main unit.

### Center speaker
- Vibration caused by the center speaker can disrupt the picture if it is placed directly on the television. Put the center speaker on a rack or shelf.
- To prevent the speakers from falling, do not place directly on top of the television.

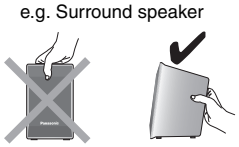
### Subwoofer
Place to the right or left of the television, on the floor or a sturdy shelf so that it will not cause vibration. Leave about 30 cm from the television.

### Caution
- Do not stand on the base.
  Be cautious when children are near.

e.g. Front speaker

- Do not touch the netted area of the speakers.

e.g. Surround speaker



### Notes on speaker use
- You can damage your speakers and shorten their useful life if you play sound at high levels over extended periods.
- Reduce the volume in the following cases to avoid damage:
  – When playing distorted sound.
  – When the speakers are reverberating due to a record player, noise from FM broadcasts, or continuous signals from an oscillator, test disc, or electronic instrument.
  – When adjusting the sound quality.
  – When turning the unit on or off.

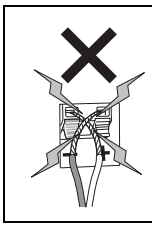
### If irregular coloring occurs on your television
The front and center speakers are designed to be used close to a television, but the picture may be affected with some televisions and setup combinations.
**If this occurs, turn the television off for about 30 minutes.**
The demagnetizing function of the television should correct the problem. If it persists, move the speakers further away from the television.

**Caution**
- **The main unit and supplied speakers are to be used only as indicated in this setup. Failure to do so may lead to damage to the amplifier and/or the speakers, and may result in the risk of fire. Consult a qualified service person if damage has occurred or if you experience a sudden change in performance.**
- **Do not attempt to attach these speakers to walls using methods other than those described in this manual.**

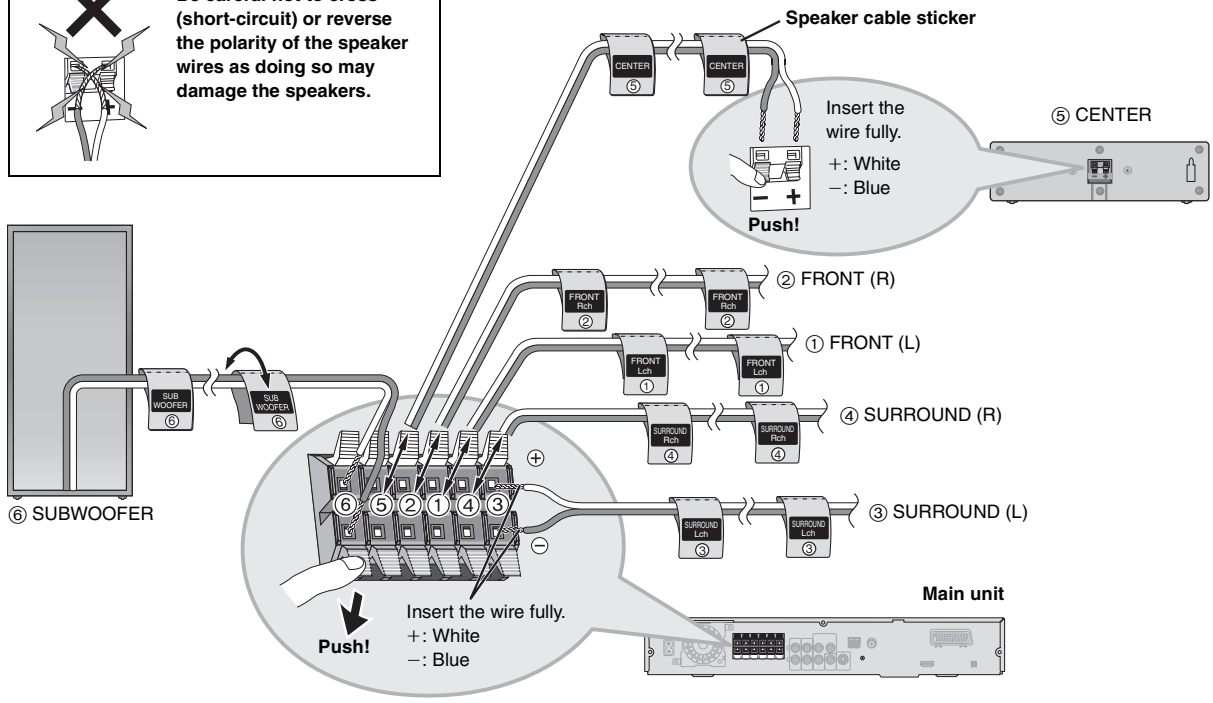
# STEP 3 Speaker connections

**3 Speaker cables**
- 1×short cable: For center speaker
- 2×long cables: For surround speakers

**2 sheets of speaker cable stickers**
- Attach the speaker-cable stickers to make connection easier.



**Be careful not to cross (short-circuit) or reverse the polarity of the speaker wires as doing so may damage the speakers.**




# STEP 4 Audio and video connections

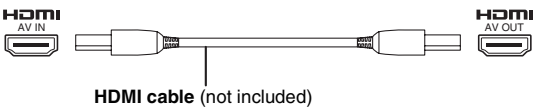
- **Do not connect through the video cassette recorder.**
  Due to copy guard protection, the picture may not be displayed properly.
- Turn the television off before connecting, and refer to the television's operating instructions.

**Video cable**

## Television with an HDMI terminal

**HDMI-compatible television** (not included)

**Back of the main unit**



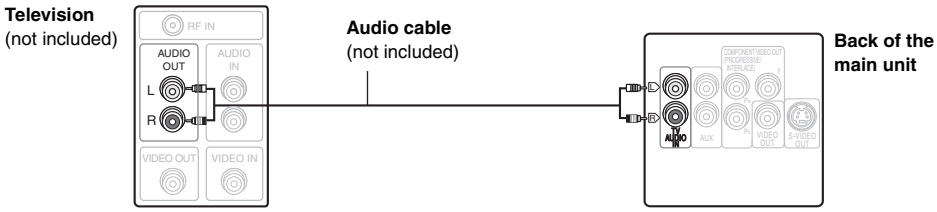

Use the HDMI connection to enjoy higher quality audio and video with a single cable (➜ page 39, HDMI).
- Set "Video Output" to "On" and "Audio Output" to "On" (➜ page 26, "HDMI" tab).
- Set "Video Output Mode" (➜ page 21, Picture Menu).

### Control with HDMI (HDAVI Control)

If your Panasonic television is an HDMI control compatible television, you can operate your television synchronizing with home-theater operations or vice versa [➜ page 34, Operating both the television and the home theater system: Control with HDMI (HDAVI Control)].

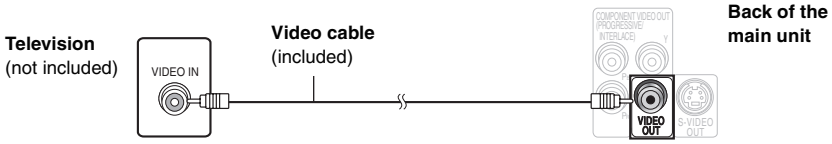
**Note**
- Make the extra audio connection (➜ page 9) when you use HDAVI Control function.
- Do not connect the scart cable (➜ page 9) when you use HDAVI Control function.
- It is recommended that you use Panasonic's HDMI cable. [Recommended part number: RP-CDHG15 (1.5 m), RP-CDHG30 (3.0 m), RP-CDHG50 (5.0 m), etc.]
- Non-HDMI-compliant cables cannot be utilized.

## Basic audio connection



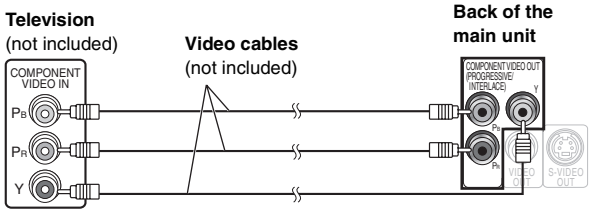

- This audio connection will enable you to play audio from your television through your home theater system. Refer to "Operating other equipment" (➜ page 33).
- You can also connect to the AUX terminals on the main unit. The TV AUDIO IN and AUX terminals are for external audio input.

## Basic video connection




### Other video connections for improved picture quality

**COMPONENT VIDEO OUT**




- **Using the COMPONENT VIDEO OUT terminals**

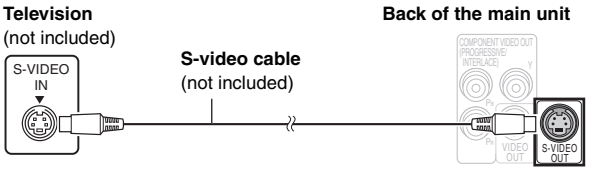
The COMPONENT VIDEO OUT terminals provides a purer picture than the S-VIDEO OUT terminal. These terminals can be used for either interlaced or progressive output. Connection using these terminals outputs the color difference signals ($P_B/P_R$) and luminance signal (Y) separately in order to achieve high fidelity in reproducing colors.

- The description of the component video input terminals depends on the television or monitor (e.g. $Y/P_B/P_R$, Y/B-Y/R-Y, $Y/C_B/C_R$). Connect to terminals of the same color.
- When making this connection, select "Video/YPbPr" or "S-Video/YPbPr" from QUICK SETUP (➜ page 11). If "RGB/No Output" is selected, the RGB signal is output from the SCART (AV) terminal, but no signal is output from the component video output terminals.

**To enjoy progressive video**

- Connect to a progressive output compatible television.
  ① Set "Video Output" to "Off" (➜ page 26, "HDMI" tab).
  ② Set "Video Output Mode" to "480p" or "576p", and then follow the instructions on the menu screen (➜ page 21, Picture Menu).
- Panasonic televisions with 625 (576)/50i·50p, 525 (480)/60i·60p input terminals are progressive compatible. Consult the manufacturer if you have another brand of television.

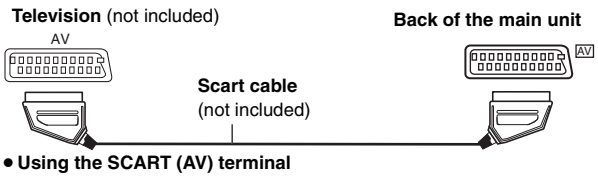
**S-VIDEO OUT**




- **Using the S-VIDEO OUT terminal**

The S-VIDEO OUT terminal achieves a more vivid picture than the VIDEO OUT terminal by separating the chrominance (C) and luminance (Y) signals. (Actual results depend on the television.)

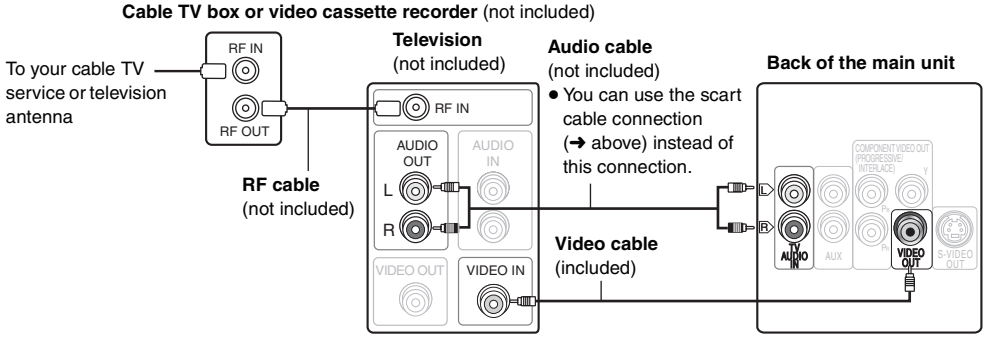
**SCART**




- **Using the SCART (AV) terminal**

To improve picture quality, you can change the video signal output from the SCART (AV) terminal from "Video" to either "S-Video" or "RGB" to suit the type of television you are using. Select "S-Video/YPbPr" or "RGB/No Output" from QUICK SETUP (➜ page 11). Also, set "Video Output" to "Off" (➜ page 26, "HDMI" tab).
This connection will also enable you to play audio from your television through your home theater system. Refer to "Operating other equipment" (➜ page 33).

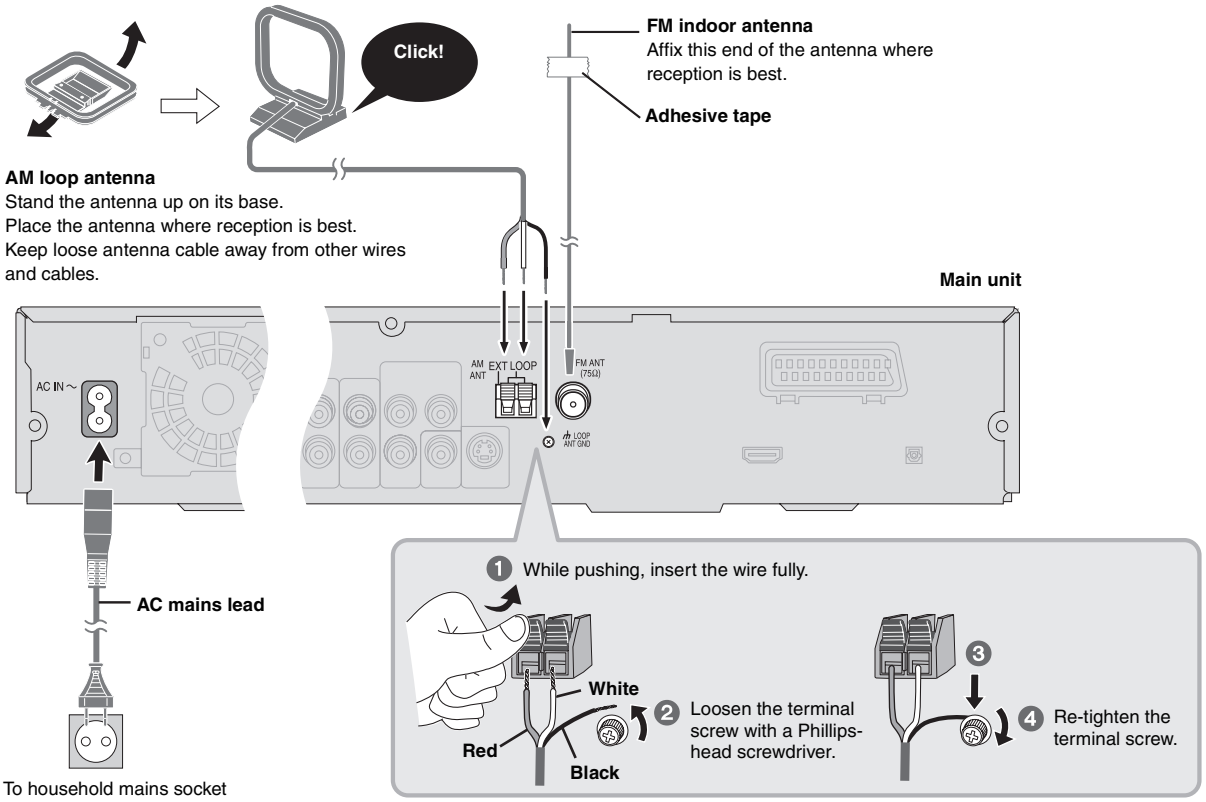
## ■ *Cable TV box or video cassette recorder connection*




You can use the AUX terminal for the audio input when you connect another external device (e.g. video cassette recorder). Select "AUX" as the input source (SELECTOR ➜ page 12).

# STEP 5 Radio and AC mains lead connections

- **Connect the AC mains lead after all other connections are complete.**
- **Using an outdoor antenna (optional) (➜ page 29).**



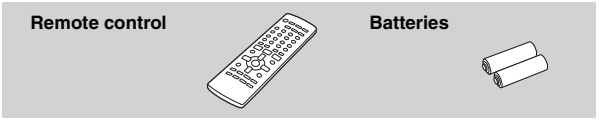

**Conserving power**

The main unit consumes a small amount of power, even when it is turned off (approx. 0.5 W). To save power when the unit is not to be used for a long time, unplug it from the household mains socket.
You will need to reset some memory items after plugging in the unit.

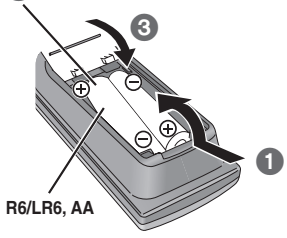
**Note**

The included AC mains lead is for use with this unit only. Do not use it with other equipment. Also, do not use cords for other equipment with this unit.

# STEP 6 Preparing the remote control




2 Insert so the poles (+ and −) match those in the remote control.




- Do not use rechargeable type batteries.

**Do not:**

- mix old and new batteries.
- use different types at the same time.
- heat or expose to flame.
- take apart or short circuit.
- attempt to recharge alkaline or manganese batteries.
- use batteries if the covering has been peeled off.

Mishandling of batteries can cause electrolyte leakage which can severely damage the remote control.

Remove the batteries if the remote control is not going to be used for a long period of time. Store in a cool, dark place.

## ■ *Use*

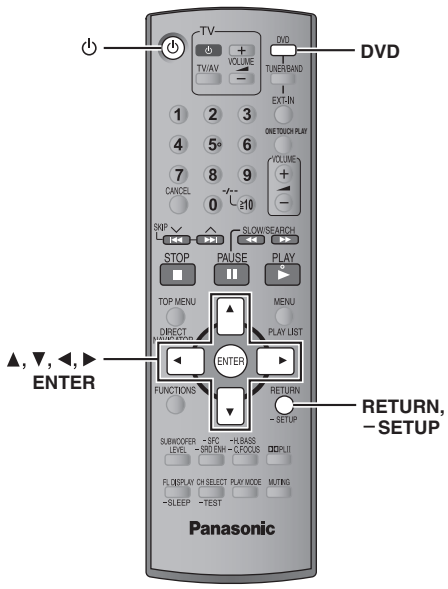
Aim at the remote control signal sensor (➜ page 12), avoiding obstacles, at a maximum range of 7 m directly in front of the unit.

# STEP 7 Performing QUICK SETUP

**The QUICK SETUP screen assists you to make necessary settings.**

**To display the picture from the main unit, turn on your television and change its video input mode (e.g. VIDEO 1, AV 1, etc.).**

- To change your television's video input mode, refer to its operating instructions.
- This remote control can perform some basic television operations (➜ page 33).



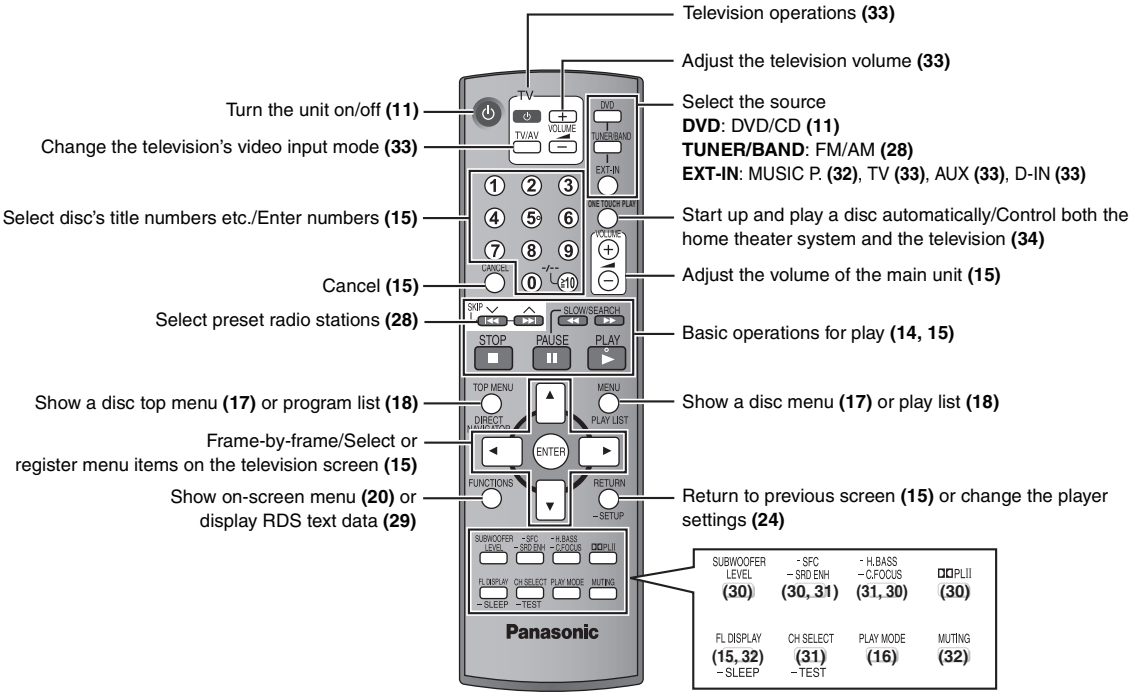

| | | |
|---|---|---|
| 1 | ⏻ | **Turn on the unit.** |
| 2 | DVD | **Select "DVD/CD".** |
| 3 | – SETUP | **Press and hold to show the QUICK SETUP screen.** |
| 4 | Select, ENTER, Register, RETURN | **Follow the messages and make the settings.** |
| 5 | ENTER | **Press to finish QUICK SETUP.** |
| 6 | – SETUP | **Press and hold to exit.** |

**To change these settings later**
Select "QUICK SETUP" in the "Others" tab (➜ page 26).

# Control reference guide



See page references in parentheses.


Television operations (33)
Adjust the television volume (33)
Turn the unit on/off (11)
Change the television's video input mode (33)
Select the source
DVD: DVD/CD (11)
TUNER/BAND: FM/AM (28)
EXT-IN: MUSIC P. (32), TV (33), AUX (33), D-IN (33)
Select disc's title numbers etc./Enter numbers (15)
Start up and play a disc automatically/Control both the home theater system and the television (34)
Cancel (15)
Adjust the volume of the main unit (15)
Select preset radio stations (28)
Basic operations for play (14, 15)
Show a disc top menu (17) or program list (18)
Show a disc menu (17) or play list (18)
Frame-by-frame/Select or register menu items on the television screen (15)
Show on-screen menu (20) or display RDS text data (29)
Return to previous screen (15) or change the player settings (24)
SUBWOOFER LEVEL (30)
SFC – SRD ENH (30, 31)
H.BASS – C.FOCUS (31, 30)
PLII (30)
FL DISPLAY (15, 32) – SLEEP
CH SELECT (31) – TEST
PLAY MODE (16)
MUTING (32)
Panasonic

**To use functions labeled with "—":**
Press and hold the button for at least 2 seconds.

**Standby/on switch [⏻/I]**
Press to switch the unit from on to standby mode or vice versa. In standby mode, the unit is still consuming a small amount of power. **(14)**

**MUSIC PORT**
Connect an external device **(32)**

**SURROUND ENHANCER**
Enhancing the surround sound effect **(14)**

Display

**⏏ OPEN/CLOSE**
Open/Close the disc tray **(14)**

**I◀◀ / ◀◀, ▶▶ / ▶▶I / ∨ TUNING ∧**
Skip or slow-search play **(14)**/
Select the radio stations **(28)**

**Phones**
Connect headphones **(32)**

Remote control signal sensor

**VOLUME**
Turn up/down the volume **(14)**

**AC supply indicator [AC IN]**
This indicator lights when the unit is connected to the AC mains supply.

**■ / –TUNE MODE / —FM MODE**
Stop playing **(14)**/Select the tuning mode **(28)**
Adjust the FM reception condition **(28)**

**► / MEMORY**
Play discs **(14)**/Memorize the receiving radio stations **(28)**

**SELECTOR (28)**
DVD/CD→FM→AM→TV→AUX→
D-IN (Digital In)→MUSIC P.→Return to DVD/CD

# Discs that can be played

Operations in these instructions are described mainly with formats. Icons such as DVD-V show the formats.

| | |
|---|---|
| DVD VIDEO DVD VIDEO | **DVD-Video** DVD-V<br>— |
| DVD AUDIO | **DVD-Audio** DVD-A DVD-V<br>● DVD-V Some DVD-Audio discs contain DVD-Video content. To play DVD-Video content, select “Play as DVD-Video” in Other Menu (➜ page 23). |
| COMPACT disc DIGITAL VIDEO COMPACT disc SUPER VIDEO | **Video CD** VCD<br>● Including SVCD (Conforming to IEC62107) |
| DVD RAM RAM4.7 | **DVD-RAM** DVD-VR MP3 JPEG MPEG4 DivX ※1<br>● DVD-VR Recorded with devices using Version 1.1 of the Video Recording Format (a unified video recording standard), such as DVD video recorders, DVD video cameras, personal computers, etc.<br>● JPEG Recorded with Panasonic SD multi cameras or DVD video recorders using the DCF (Design rule for Camera File system) Standard Version 1.0.<br>● MPEG4 Recorded with Panasonic SD multi cameras or DVD video recorders [conforming to SD VIDEO specifications (ASF standard)/MPEG4 (Simple Profile) video system/G.726 audio system]. |
| DVD R R4.7<br>DVD RW DVD R R DL | **DVD-R (DVD-Video)**※2**/DVD-RW (DVD-Video)** DVD-V<br>● Discs recorded and finalized※3 on DVD video recorders or DVD video cameras.<br>**DVD-R (VR)**※2**/DVD-RW (VR)** DVD-VR<br>● Discs recorded and finalized※3 on DVD video recorders or DVD video cameras using Version 1.1 (or 1.2 DVD-R DL only) of the Video Recording Format (a unified video recording standard).<br>**DVD-R/DVD-RW** MP3 JPEG MPEG4 DivX ※1<br>● Finalize※3 the disc after recording. |
| — | **+R (Video)**※2**/+RW (Video)** DVD-V<br>● Discs recorded and finalized※3 on DVD video recorders or DVD video cameras. |
| COMPACT disc DIGITAL AUDIO COMPACT disc DIGITAL AUDIO TEXT | **CD** CD WMA MP3 JPEG VCD MPEG4 DivX ※1<br>● This unit can play CD-R/RW recorded with the above formats. Close the sessions or finalize※3 the disc after recording.<br>● CD This unit is compatible with HDCD, but does not support the Peak Extend function (a function which expands the dynamic range of high-level signals).<br>HDCD-encoded CDs sound better because they are encoded with 20 bits, as compared with 16 bits for all other CDs.<br>● WMA MP3 JPEG This unit also plays HighMAT discs.<br>● WMA This unit does not support Multiple Bit Rate (MBR: a file that contains the same content encoded at several different bit rates). |

※1 Functions added with DivX Ultra are not supported.
※2 Includes single-sided, double-layered discs.
※3 A process that allows play on compatible equipment.
● It may not be possible to play all the above-mentioned discs in some cases due to the type of disc or condition of the recording.

## ■ *Discs that cannot be played*

DVD-RW version 1.0, DVD-ROM, CD-ROM, CDV, CD-G, SACD and Photo CD, DVD-RAM that cannot be removed from their cartridge, 2.6-GB and 5.2-GB DVD-RAM, and “Chaoji VCD” available on the market including CVD, DVCD and SVCD that do not conform to IEC62107.

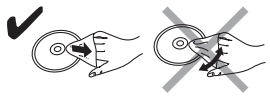
## ■ *Video systems*

– This unit can play PAL and NTSC, but your television must match the system used on the disc.
– PAL discs cannot be correctly viewed on an NTSC television.
– This unit can convert NTSC signals to PAL 60 for viewing on a PAL television (➜ page 25, “NTSC Disc Output” in “Video” tab).

# Disc caution

## ■ *To clean discs*

Wipe with a damp cloth and then wipe dry.



## ■ *Disc handling precautions*

- Do not attach labels or stickers to discs. This may cause disc warping, rendering it unusable.
- Do not write on the label side with a ball-point pen or other writing instrument.
- Do not use record cleaning sprays, benzine, thinner, liquids which prevent static electricity, or any other solvent.
- Do not use scratch-proof protectors or covers.
- Do not use the following discs:
  – Discs with exposed adhesive from removed stickers or labels (rented discs, etc).
  – Discs that are badly warped or cracked.
  – Irregularly shaped discs, such as heart shapes.

# Maintenance

**Clean this unit with a soft, dry cloth.**

- Never use alcohol, paint thinner or benzine to clean this unit.
- Before using chemically treated cloth, carefully read the instructions that came with the cloth.

**Do not use commercially available lens cleaners as they may cause malfunction.** Cleaning of the lens is generally not necessary although this depends on the operating environment.

**Before moving the unit, ensure the disc tray is empty.** Failure to do so will risk severely damaging the disc and the unit.

# Basic play

**To display the picture from the main unit, turn on your television and change its video input mode (e.g. VIDEO 1, AV 1, etc.).**

- To change your television's video input mode, refer to its operating instructions.

## Using the main unit

**1 Turn the unit on.**

**2 Select "DVD/CD".**

- Select "TV" or "AUX" to enjoy video cassette recorder, television or cable TV programs.
  (Refer to page 9 for the necessary connections.)

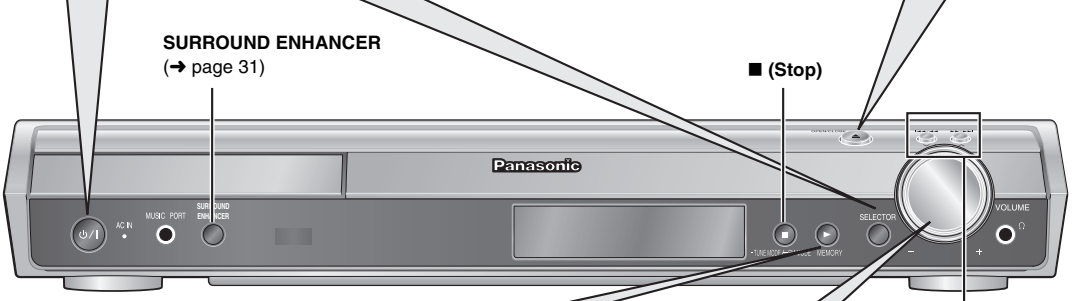
SELECTOR

**3 Open the disc tray.**

OPEN/CLOSE

**4 Load the disc.**

- Load double-sided discs so the label for the side you want to play is facing up.
- For DVD-RAM, remove the disc from its cartridge before use.




**5 Start play.**

The tray is automatically closed.

**To change the sound quality ➜ page 30**

**6 Adjust the volume.**

VOLUME

– +

**Press to skip.**
**Press and hold to**
– search during play
– start slow-motion play during pause
**(Motion picture part)**

- Press [►] (Play) to start normal play.

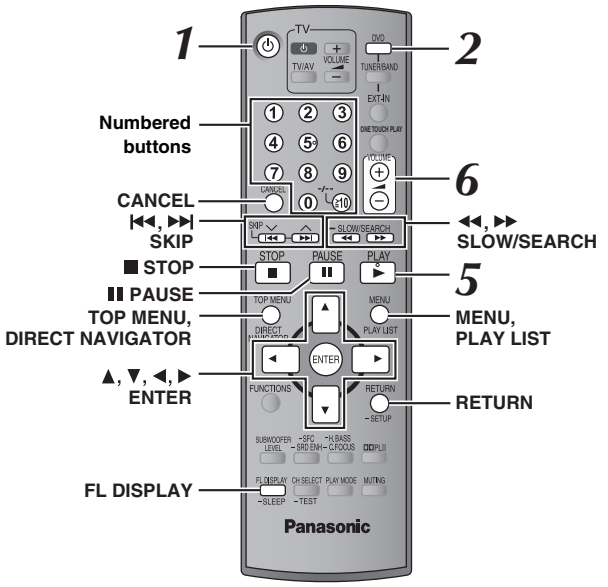
I◄◄/◄◄ ►►/►►I

**Note**

- Discs continue to rotate while menus are displayed. To preserve the unit's motor and your television screen, press [■] (Stop) when you are finished with the menus.
- Total title number may not be displayed properly on +R/+RW.

If you are experiencing problems, refer to troubleshooting (➜ page 36 to 38).

## Using the remote control




**Stop** — STOP ■

The position is memorized while "RESUME" is on the display.
- Press [► PLAY] to resume.
- Press [■ STOP] again to clear the position.

**Pause** — PAUSE ❚❚

- Press [► PLAY] to restart play.

**Skip** — SKIP ⏮ ⏭

—

- WMA MP3 JPEG MPEG4 DivX [This feature does not work during program and random play (➜ page 16).]

[▲, ▼]: **Group skip**

[◄, ►]: **Content skip**

**Search** (during play)

**Slow-motion** (during pause) — SLOW/SEARCH ◀◀ ▶▶

- Up to 5 steps.
- Press [► PLAY] to start normal play.
- VCD Slow-motion: forward direction only.
- MPEG4 DivX Slow-motion: Does not work.

**Frame-by-frame** (during pause)

DVD-A (Motion picture part) DVD-VR DVD-V VCD

- VCD Forward direction only.

**On-screen item select** — Select / ENTER / Register

—

**Enter number** — 1 2 3 / 4 5 6 / 7 8 9 / 0 ≧10 / ENTER / CANCEL

DVD-VR DVD-A DVD-V VCD CD
e.g. To select 12:
[≧10] ➜ [1] ➜ [2]

VCD with playback control
Press [■ STOP] to cancel the PBC function, and then press the numbered buttons.

WMA MP3 JPEG MPEG4 DivX
e.g. To select 123:
[1] ➜ [2] ➜ [3] ➜ [ENTER]

- Press [CANCEL] to cancel the number(s).

**Disc menu**

TOP MENU / DIRECT NAVIGATOR

DVD-A DVD-V
Shows a disc top menu.

DVD-VR
Press the button to show the programs (➜ page 18).

MENU / PLAY LIST

DVD-V
Shows a disc menu.

DVD-VR
Press the button to show a playlist (➜ page 18).

RETURN

VCD with playback control
Shows a disc menu.

**Return to previous screen** — RETURN

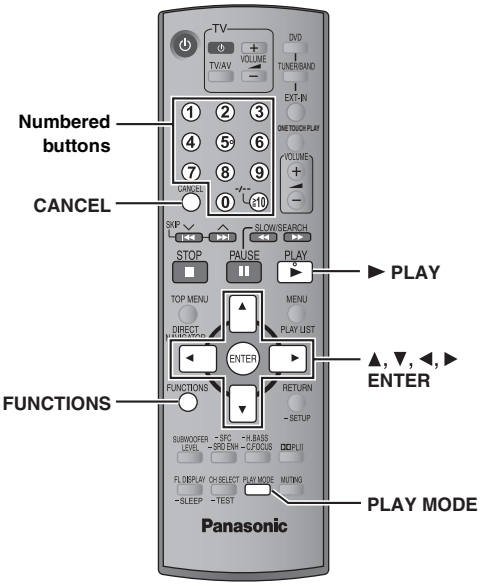
—

**Main unit display** — FL DISPLAY

DVD-VR DVD-A DVD-V WMA MP3 MPEG4 DivX
Time display
↔Information display
(e.g. DVD-VR Program number)

JPEG
When Slideshow (➜ page 20) is on:
SLIDE↔Contents number
When Slideshow is off:
PLAY↔Contents number

# Convenient functions




## Displaying current playback condition

FUNCTIONS

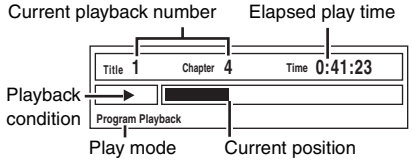
**Press [FUNCTIONS].**

**Each time you press the button:**

Main menu (➜ page 20) ⟶ Basics ⟶ Details
↑ off (No on-screen display) ⟵

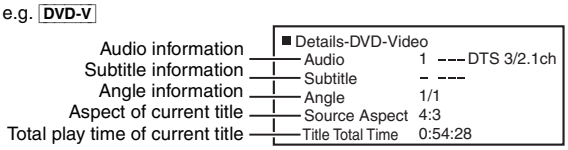
### ■ *Basics*

e.g. DVD-V




### ■ *Details*

e.g. DVD-V




- MPEG4 DivX Video and audio information is not displayed during search.

## All group, Program and Random play

PLAY MODE

- Selecting "Play as Data Disc" in Other Menu (➜ page 23) will be effective if the following functions are not available to play WMA, MP3, JPEG, MPEG4 or DivX video contents.
- DVD-V Some items cannot be played even if you have programmed them.
- DVD-A Some discs contain bonus groups. If a password screen appears after selecting a group, enter the password with the numbered buttons to play the bonus group. Refer also to the disc's jacket.

**Press [PLAY MODE] while stopped.**

All group, program and random playback screens appear sequentially.

All group (DVD-A) ⟶ Program ⟶ Random
↑ off (Normal play) ⟵

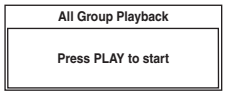
**To exit the all group, program and random mode**

Press [PLAY MODE] several times while stopped.

## All group play

DVD-A

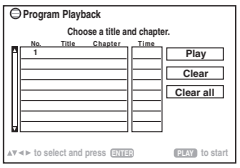
**Press [► PLAY].**




## Program play (up to 32 items)

**1 Press the numbered buttons to select the item. (WMA MP3 JPEG MPEG4 DivX Press [ENTER] to register the selection.)**

e.g. DVD-V




- Repeat this step to program other items.
- To select a 2-digit number
  e.g. To select 12: [≧10] ➜ [1] ➜ [2]
  WMA MP3 JPEG MPEG4 DivX [1] ➜ [2] ➜ [ENTER]

**2 Press [► PLAY].**

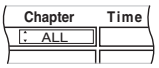
**To select an item using the cursor buttons**

Press [ENTER] and [▲, ▼] to select an item, and then press [ENTER] again to register.

**To select all the items**

While the "Chapter", "Track" or "Content" field is highlighted, press [▲, ▼] to select "ALL". Then press [ENTER] again to register.

e.g. DVD-V




**To change the selected program**

1 Press [▲, ▼] to select the program number.
2 Press the numbered buttons to change each item. (WMA MP3 JPEG MPEG4 DivX Press [ENTER] to register the selection.)

**To clear the selected program**

1 Press [▲, ▼] to select the program number.
2 Press [CANCEL] (or press [▲, ▼, ◄, ►] to select "Clear" and press [ENTER]).

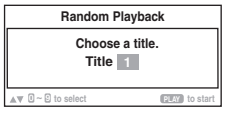
**To clear the whole program**

Select "Clear all" with [▲, ▼, ◄, ►] and press [ENTER].
The whole program is also cleared when the disc tray is opened, the unit is turned off or another source is selected.

## Random play

**1 DVD-A DVD-V WMA MP3 JPEG MPEG4 DivX Press the numbered buttons to select a group or title. (WMA MP3 JPEG MPEG4 DivX Press [ENTER] to register the selection.)**

e.g. DVD-V

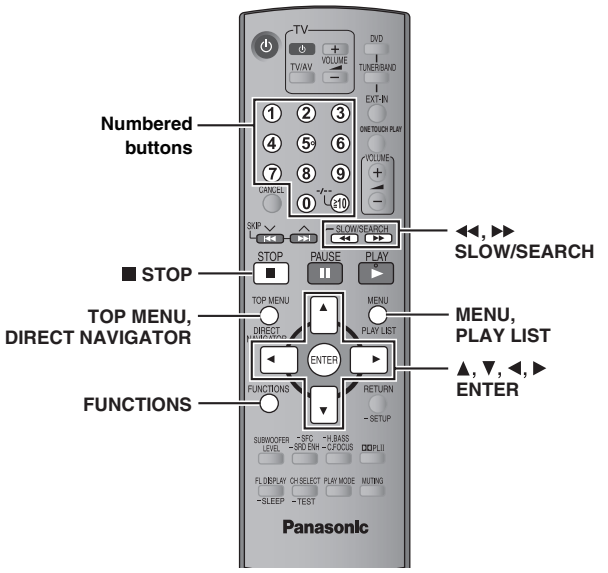



DVD-A

- To enter all groups, press [◄, ►] to select "All" and press [ENTER].
- To deselect a group, press numbered buttons corresponding to the group you want to clear.

**2 Press [► PLAY].**

# Playing data discs using navigation menus




## Playing data discs

WMA MP3 JPEG MPEG4 DivX

TOP MENU / MENU

Selecting "Play as Data Disc" in Other Menu (➜ page 23) will be effective if the following functions are not available to play WMA, MP3, JPEG, MPEG4 or DivX video contents.

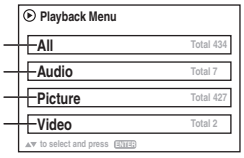
- Playing HighMAT™ discs (➜ page 18)

### Playing items in order (Playback Menu)

**1** **Press [TOP MENU].**

- To exit the screen, press [TOP MENU].

e.g.



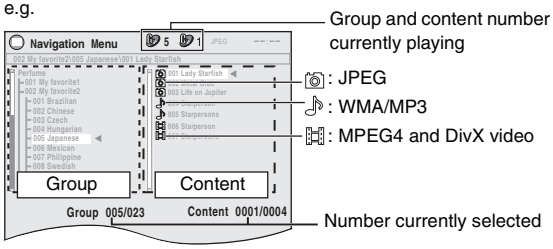

**2** **Press [▲, ▼] to select "All", "Audio", "Picture" or "Video" and press [ENTER].**

### Playing from the selected item (Navigation Menu)

**1** **Press [MENU].**

- To exit the screen, press [MENU].

e.g.




**2** **Press [◀] followed by [▲, ▼] to select the group and press [ENTER].**

**3** To play content in the group in order
**Press [ENTER].**
To start play from the selected content
**Press [▲, ▼] to select and [ENTER].**

To enjoy listening to WMA/MP3 contents while showing a JPEG image on the screen, select a JPEG file first and then select audio contents. (The opposite order is not effective.)

## ■ *Using the submenu*

① **While Navigation Menu is displayed**
**Press [FUNCTIONS].**

② **Press [▲, ▼] to select an item and press [ENTER].**

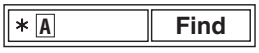
Items shown differ depending on the type of disc.

| | |
|---|---|
| ✓ **Multi** | Groups and contents are displayed. |
| **List** | Contents only |
| **Tree** | Groups only |
| **Thumbnail** | Thumbnail images JPEG |
| **Next group** | To go to next group |
| **Previous group** | To go to previous group |
| **All** | WMA/MP3, JPEG, MPEG4 and DivX video |
| **Audio** | WMA/MP3 only |
| **Picture** | JPEG only |
| **Video** | MPEG4 and DivX video only |
| **Help display** | To switch between guide messages and the elapsed play time indicator |
| **Find** | To search by content or group title (➜ below) |

## ■ *Searching by a content or group title*

Highlight a group title to search the group, or a content title to search its content.

① **While the submenu is displayed (➜ above)**
**Press [▲, ▼] to select "Find" and press [ENTER].**




② **Press [▲, ▼] to select a character and press [ENTER].**

- Repeat to enter another character.
- Lower case characters are also searched.
- Press [◀◀, ▶▶ SLOW/SEARCH] to skip between A, E, I, O and U.
- Press [◀] to erase a character.
- Leave the asterisk (∗) when you search for the titles including the character you enter.
- Erase the asterisk (∗) to search for the titles starting with the character you enter. To add the asterisk (∗) again, display the submenu again and select "Find".

③ **Press [▶] to select "Find" and press [ENTER].**
The search result screen appears.

④ **Press [▲, ▼] to select the content or group and press [ENTER].**

(Continued on next page)

# Playing data discs using navigation menus

## Selecting a track using CD text

CD

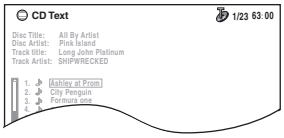
TOP MENU / MENU

Titles appear with CD Text disc playback.

**1 Press [TOP MENU] or [MENU].**

- To exit the screen, press [TOP MENU] or [MENU].

e.g. CD text




**2 Press [▲, ▼] to select the track and press [ENTER].**

- Press [FUNCTIONS] to show the playback condition and current position.

## Playing HighMAT™ discs

WMA MP3 JPEG

TOP MENU / MENU

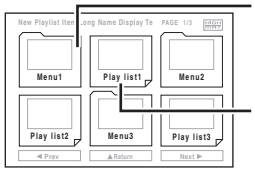
**1 Press [TOP MENU].**

- To exit the screen, press [■ STOP].
- To change the menu background to the one recorded on the disc, press [FUNCTIONS].

**2 Press [▲, ▼, ◄, ►] to select the item, and then press [ENTER].**

- Repeat this step if necessary.

e.g.




Menu: Takes you to the next menu which shows play lists or another menu

Playlist: play starts

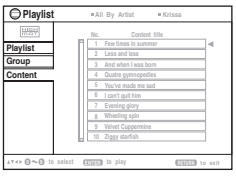
### Selecting from the list

**1 During play**

**Press [MENU].**

- To exit the screen, press [MENU].

e.g.




**2 Press [◄] followed by [▲, ▼] to switch among "Playlist", "Group" and "Content" lists.**

**3 Press [►] followed by [▲, ▼] to select an item and press [ENTER].**

## Playing RAM and DVD-R/-RW (DVD-VR) discs

DVD-VR

DIRECT NAVIGATOR / PLAY LIST

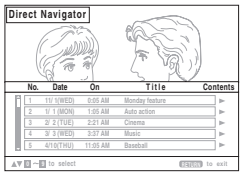
- Titles appear only if the titles are recorded on the disc.
- You cannot edit programs, playlists and disc titles.

### Playing the programs

**1 Press [DIRECT NAVIGATOR].**

- To exit the screen, press [DIRECT NAVIGATOR].

e.g.




**2 Press [▲, ▼] or the numbered buttons to select the program.**

- To select a 2-digit number
  e.g. 12: [≧10] ➜ [1] ➜ [2]
- Press [►] to show the contents of the program and the disc.

**3 Press [ENTER].**

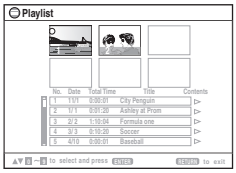
### Playing a playlist

This works only when the disc contains a play list.

**1 Press [PLAY LIST].**

- To exit the screen, press [PLAY LIST].

e.g.




**2 Press [▲, ▼] or the numbered buttons to select the playlist.**

- To select a 2-digit number
  e.g. 12: [≧10] ➜ [1] ➜ [2]

**3 Press [ENTER].**

### ■ *Playing scenes one by one*

① While the playlist menu is displayed
**Press [►].**

② **Press [▲, ▼] to select "Scene List" and press [ENTER].**

- "Contents" shows playlist information.

③ **Press [▲, ▼, ◄, ►] to select a scene and press [ENTER].**

## Tips for making data discs

- When there are more than 8 groups, the eighth group onwards will be displayed on one vertical line in the menu screen.
- There may be differences in the display order on the menu screen and computer screen.
- This unit cannot play files recorded using packet write.

**DVD-RAM**

- Discs must conform to UDF 2.0.

**DVD-R/RW**

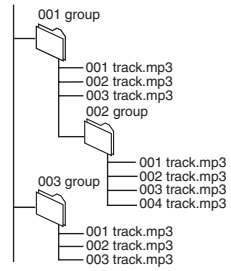
- Discs must conform to UDF bridge (UDF 1.02/ISO9660).
- This unit does not support multi-session. Only the default session is played.

**CD-R/RW**

- Discs must conform to ISO9660 level 1 or 2 (except for extended formats).
- This unit supports multi-session but if there are many sessions it takes more time for play to start. Keep the number of sessions to a minimum to avoid this.

**Naming folders and files**
**(Files are treated as contents and folders are treated as groups on this unit.)**
At the time of recording, prefix folder and file names. This should be with numbers that have an equal number of digits, and should be done in the order you want to play them (this may not work at times).
Files must have the extension (➜ below).

**e.g.** MP3




WMA (Extension: ".WMA" or ".wma")

- Compatible compression rate: between 48 kbps and 320 kbps
- You cannot play WMA files that are copy-protected.
- This unit does not support Multiple Bit Rate (MBR).

MP3 (Extension: ".MP3" or ".mp3")

- Compatible compression rate: between 32 kbps and 320 kbps
- This unit does not support ID3 tags.
- Compatible sampling rates:
  – DVD-RAM, DVD-R/RW: 11.02, 12, 22.05, 24, 44.1 and 48 kHz
  – CD-R/RW: 8, 11.02, 12, 16, 22.05, 24, 32, 44.1 and 48 kHz

JPEG (Extension: ".JPG", ".jpg", ".JPEG" or ".jpeg")

- JPEG files taken on a digital camera that conform to DCF Standard (Design rule for Camera File system) Version 1.0 are displayed. Files that have been altered, edited or saved with computer picture editing software may not be displayed.
- This unit cannot display moving pictures, MOTION JPEG and other such formats, and still pictures other than JPEG (e.g. TIFF), or play pictures with attached audio.

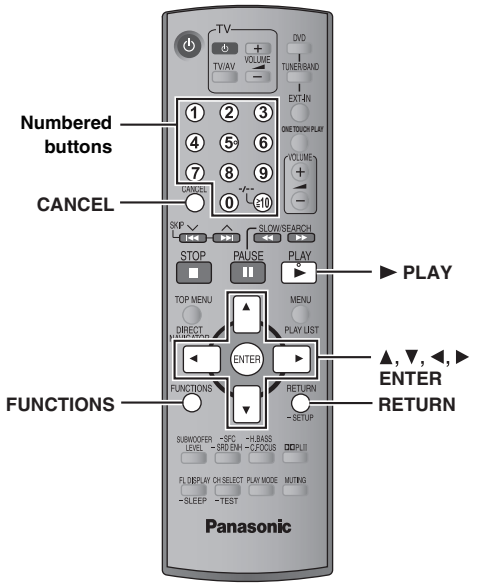
MPEG4 (Extension: ".ASF" or ".asf")

- You can play MPEG4 data [conforming to SD VIDEO specifications (ASF standard)/MPEG4 (Simple Profile) video system/G.726 audio system] recorded with Panasonic SD multi cameras or DVD video recorders with this unit.
- The recording date may differ from that of the actual date.

DivX (Extension: ".DIVX", ".divx", ".AVI" or ".avi")

- You can play all versions of DivX® video (including DivX®6) [DivX video system/MP3, Dolby Digital or MPEG audio system] with standard playback of DivX® media files. Functions added with DivX Ultra are not supported.
- GMC (Global Motion Compensation) is not supported.
- DivX files greater than 2 GB or have no index may not be played properly on this unit.
- This unit supports all resolutions up to maximum of 720 ×480 (NTSC)/720 ×576 (PAL).
- You can select up to 8 types of audio and subtitles on this unit.

# Using on-screen menus



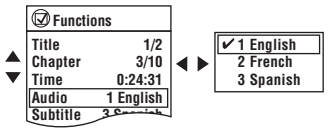

**1** FUNCTIONS

**Show the Main menu.**

**2** Select / Go to the next menu / Register / Return to the previous menu

**Select the menu.**

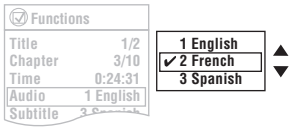
e.g. DVD-V




**3** Select / Register

**Make the settings.**

e.g. DVD-V

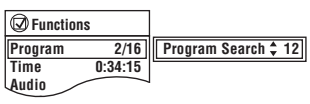



**4** RETURN

**Press to exit.**

## Main menu

**Items shown differ depending on the type of disc.**

| | |
|---|---|
| **Program**<br>**Group**<br>**Title**<br>**Chapter**<br>**Track**<br>**Playlist**<br>**Content** | **To start from a specific item**<br>e.g. DVD-VR To select Program 12<br>Press the numbered buttons: [1] ➜ [2] ➜ [ENTER]<br>  |
| **Time** | (Time Slip and Time Search do not work with +R/+RW discs.)<br>**To skip incrementally or decrementally (Time Slip for play only)**<br>1 Press [ENTER] twice to show the Time Slip indicator.<br>2 Press [▲, ▼] to select the time and press [ENTER].<br>● To change the steps more quickly, press and hold [▲, ▼].<br>**To start from a specific time (Time Search)**<br>**To change remaining/elapsed time display** |
| **Video** | MPEG4 DivX<br>**To display pixel number**<br>DivX fps (frame per second) is also displayed. |
| **Audio** | DVD-A DVD-V DivX (with multiple soundtracks)<br>**To select audio soundtrack**<br>DVD-VR VCD DivX<br>**To select "L", "R" or "LR"**<br>DVD-V (Karaoke disc)<br>**To select "On" or "Off" for vocals**<br>● Read the disc's instructions for details.<br>**Signal type/data**<br>LPCM/PPCM/DD Digital/DTS/MP3/MPEG: Signal type kHz (Sampling frequency)/bit/ch (Number of channels)<br>e.g. 3/2 .1ch<br>.1: Low frequency effect (not displayed if there is no signal)<br>0: No surround<br>1: Mono surround<br>2: Stereo surround (left/right)<br>1: Center<br>2: Front left+Front right<br>3: Front left+Front right+Center<br>● DivX It may take some time for play to start if you change the audio on a DivX video disc. |
| | WMA MP3<br>**To display the current bitrate or sampling frequency** |
| **Still Picture** | **To switch still pictures** |
| **Thumbnail** | **To show thumbnail images** |
| **Subtitle** | DVD-V DivX (with multiple subtitles)<br>VCD (SVCD only)<br>**To select subtitle language**<br>● On +R/+RW, a subtitle number may be shown for subtitles that are not displayed.<br>● DVD-VR "On" or "Off" appears only with discs that contain subtitle on/off information (Subtitle on/off information cannot be recorded using Panasonic DVD Recorders). |
| **Marker (VR)** | DVD-VR<br>**To recall a marker recorded on DVD-Video recorders**<br>Press [▲, ▼] ➜ Press [ENTER]. |
| **Angle** | (with multiple angles)<br>**To select a video angle** |
| **Rotate Picture** | **To rotate a picture** |
| **Slideshow** | **To turn on/off slideshow**<br>**On ⟷ Off**<br>**To change the slideshow timing**<br>**1 (Fast) to 5 (Slow)** |
| **Other Settings** | (➜ page 21) |

## Other Settings

Items shown differ depending on the type of disc.

| | |
|---|---|
| **Play Speed** | DVD-A (Motion picture part) DVD-VR DVD-V<br>**To change play speed**<br>– from "×0.6" to "×1.4"<br>● Press [► PLAY] to return to normal play.<br>● After you change the speed<br>– Dolby Pro Logic II and Sound Enhancement have no effect.<br>– Audio output switches to 2-channel stereo.<br>– Sampling frequency of 96 kHz is converted to 48 kHz.<br>● This function may not work depending on the disc's recording. |

## ■ *Play Menu*

This works only when the elapsed play time can be displayed. It also works with all JPEG content.

| | |
|---|---|
| **Repeat** | DVD-VR: Program→All→Off<br>● During playlist play: Scene→Playlist→Off<br>DVD-A: Track→Group*→Off<br>DVD-V: Chapter→Title*→Off<br>VCD CD: Track→All→Off<br>WMA MP3 MPEG4 DivX: Content→Group*→Off<br>JPEG: Group*→Off<br>*"All" is displayed during all group (DVD-A), program or random play. |
| **A-B Repeat** | Except JPEG DVD-VR (Still picture part) MPEG4 DivX<br>**To repeat a specified section**<br>Press [ENTER] at the starting and ending points.<br>Press [ENTER] again to cancel. |
| **Marker** | Except DVD-VR<br>**To mark up to 5 positions to play again**<br>Press [ENTER] (The unit is now ready to accept markers.)<br>To mark a position:<br>Press [ENTER] (at the desired point).<br>To mark another position:<br>Press [◄, ►] to select "∗" ➜ Press [ENTER].<br>To recall a marker:<br>Press [◄, ►] ➜ Press [ENTER].<br>To erase a marker:<br>Press [◄, ►] ➜ Press [CANCEL].<br>● This feature does not work during program and random play.<br>● Markers you add are cleared when you open the disc tray or switch the unit to standby. |
| **Advanced Disc Review** | DVD-VR (Except still picture part)<br>DVD-V (Except +R/+RW)<br>Allows you to browse the disc contents and start playing from the selected position. You can select either "Intro Mode" or "Interval Mode" in "Advanced Disc Review" in the "Disc" tab (➜ page 24).<br>**When you find a title/program to play**<br>Press [► PLAY].<br>● This may not work depending on the disc and the play position.<br>● DVD-VR This does not work when playing a playlist (➜ page 18). |

## ■ *Picture Menu*

| | |
|---|---|
| **Picture Mode** | **Normal**<br>**Cinema1**: Mellows images and enhances detail in dark scenes.<br>**Cinema2**: Sharpens images and enhances detail in dark scenes.<br>**Animation**: Suitable for animation.<br>**Dynamic**: Enhances the contrast for powerful images.<br>**User**: Press [ENTER] to select "Picture Adjustment" (➜ below).<br>**Picture Adjustment**<br>**Contrast**: Increases the contrast between light and dark parts of the picture.<br>**Brightness**: Brightens the picture.<br>**Sharpness**: Adjusts the sharpness of the edges of horizontal lines.<br>**Colour**: Adjusts the shade of the picture's color.<br>**Gamma**: Adjusts the brightness of dark parts.<br>**Depth Enhancer**: Reduces the rough noise in the background to give a greater feeling of depth. |
| **Video Output Mode** | **To select suitable picture quality with your television**<br>(Video recordings will be converted to, and output as, high-definition video.)<br>When HDMI connection is being used and "Video Output" (➜ page 26, "HDMI" tab) is set to "On"<br>*1 **480p/576p/720p** (progressive)<br>*2 **1080i** (interlace)<br>● Select a video output with an "∗" mark. The "∗" mark shows that the video output is acceptable with your television.<br>● Selecting a video output without an "∗" mark can result in the picture being distorted. If the picture is distorted, press and hold [CANCEL] until the picture is displayed correctly. (The output will return to "576p" or "480p".)<br>● Output from the COMPONENT VIDEO OUT terminals will be "576p" or "480p".<br>When HDMI connection is **not** being used and "Video Output" (➜ page 26, "HDMI" tab) is set to "Off"<br>*1 **480p/576p** (progressive)<br>*2 **480i/576i** (interlace)<br>When you select "xxx*p" (progressive) and a confirmation screen appears, select "Yes" only if connecting to a progressive output compatible television.<br>* The numbers displayed depend on the disc being played. One of the above numbers is displayed. |

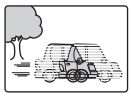
(Continued on next page)

# Using on-screen menus

## Other Settings

Items shown differ depending on the type of disc.

### ■ *Picture Menu* (Continued)

| | |
|---|---|
| **Transfer Mode** | If you have chosen "xxx℗p" (progressive) or "1080i" (interlace) (➜ page 21, "Video Output Mode" in Picture Menu), select the method of conversion for progressive output to suit the type of material.<br>● The setting will return to Auto or Auto1 when the disc tray is opened, the unit is turned off or another source is selected.<br><br>When playing PAL discs, MPEG4 or DivX video contents<br>**Auto**: Automatically detects the film and video content, and appropriately converts it.<br>**Video**: Select when using Auto, and the content is distorted.<br>**Cinema**: Select this if the edges of the film content appear jagged or rough when Auto is selected. However, if the video content is distorted as shown in the illustration to the right, then select Auto.<br>  <br><br>When playing NTSC discs<br>**Auto1**: Automatically detects the film and video content, and appropriately converts it.<br>**Auto2**: In addition to Auto1, automatically detects film contents with different frame rates and appropriately converts it.<br>**Video**: Select when using Auto1 and Auto2, and the content is distorted. |
| **Source Select** DivX | When you select "Auto" the constructing method of the DivX contents is automatically distinguished and output. If the picture is distorted, select "I (Interlace)" or "P (Progressive)" depending on which constructing method was used when the contents were recorded to disc.<br>**Auto**, I (Interlace), P (Progressive) |
| **HD Picture Enhancer** | This works when the HDMI connection is being used and "Video Output" (➜ page 26, "HDMI" tab) is set to "On".<br><br>**To sharpen the "720p" and "1080i" picture quality**<br>**Off** ⟷ **1** ⟷ **2** ⟷ **3** (sharpest picture) |
| **HDMI Colour Space** | This works when the HDMI connection is being used and "Video Output" (➜ page 26, "HDMI" tab) is set to "On".<br><br>**To select suitable picture colour with your television**<br>**RGB**<br>**$YC_bC_r$ (4:4:4)**<br>**$YC_bC_r$ (4:2:2)**<br>● If the setting above is not compatible with your television, it will not be displayed.<br>● "RGB Range" (➜ page 26, "HDMI" tab) is available when "RGB" is selected. |

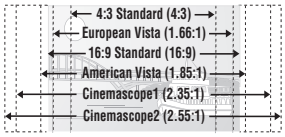
### ■ *Audio Menu*

| | |
|---|---|
| **Dolby Pro Logic II** | (➜ page 30, Enhancing the stereo sound: Dolby Pro Logic II) |
| **Dialogue Enhancer** | **To make the dialogue in movies easier to hear**<br>DVD-V (Dolby Digital, DTS, MPEG, 3-channel or higher, with the dialogue recorded in the center channel)<br>DivX (Dolby Digital, 3-channel or higher, with the dialogue recorded in the center channel)<br>**On ⟷ Off** |
| **Sound Enhancement** | **To enjoy comfortable, analog-like sound**<br>DVD-VR DVD-V (Discs recorded with 48 kHz only)<br>WMA MP3 (Disc recording is other than 8 kHz, 16 kHz or 32 kHz)<br>VCD CD<br>**On ⟷ Off**<br>● This may have no effect depending on the disc's recording.<br>● This does not work with MP3 on DVD-RAM or DVD-R/RW. |

## Other Settings

**Items shown differ depending on the type of disc.**

### ■ *Display Menu*

| | |
|---|---|
| **Information** | JPEG **On ⟷ Off** |
| **Subtitle Position** | **0 to −60 (in 2 unit steps)** |
| **Subtitle Brightness** | **Auto, 0 to −7** |
| **4:3 Aspect** | **To select how to show images made for 4:3 aspect screens on a 16:9 aspect television**<br>**Normal:** Laterally stretches images.<br>**Auto:** Expands 4:3 letterbox images to fill more of the screen. Other images appear in full in the center of the screen.<br>**Shrink:** Images appear in the center of the screen.<br>**Zoom:** Expands to 4:3 aspect ratio.<br>If your television has a similar feature, use it instead for a better effect. |
| **Just Fit Zoom** | **To select the appropriate screen size to fit your television screen**<br>DVD-A (Motion picture part)<br>DVD-VR DVD-V VCD<br>**Auto**, **4:3 Standard**, **European Vista**, **16:9 Standard**, **American Vista**, **Cinemascope1**, **Cinemascope2**<br>e.g.  <br>MPEG4 DivX<br>**Standard** (×0.25 full-screen), **Original** (actual recorded size), **Full** (full-screen)<br>● This may not work depending on the discs recording. |

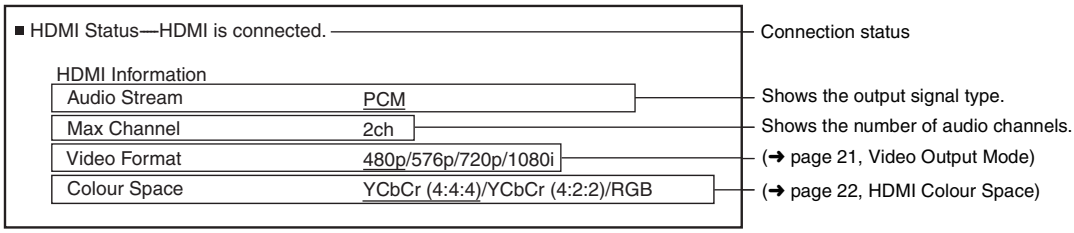
| | |
|---|---|
| **Manual Zoom** | **To zoom in and out manually**<br>– in 0.01-unit steps from "×1.00" to "×1.60"<br>– in 0.02-unit steps from "×1.60" to "×2.00"<br>– in 0.05-unit steps from "×2.00" to "×4.00"<br>(MPEG4 DivX only)<br>● To change the steps more quickly, press and hold [▲, ▼].<br>● MPEG4 DivX It may not be possible to zoom up to "×4.00" depending upon the connected television and its settings. |
| **Bit Rate Display** | DVD-A (Motion picture part)<br>DVD-VR DVD-V VCD MPEG4 DivX<br>**On ⟷ Off** |
| **GUI See-through** | **To make the on-screen menu transparent**<br>**Off, On, Auto** |
| **GUI Brightness** | **To adjust the on-screen menu brightness**<br>**−3 to +3** |
| **HDMI Status** | Indicates various information when connected with HDMI AV OUT terminal.<br>(➜ below, Confirming HDMI information) |

### ■ *Other Menu*

| | |
|---|---|
| **Setup** | (➜ page 24) |
| **Play as DVD-Video** or **Play as DVD-Audio** | **To play DVD-Video contents of DVD-Audio**<br>Select "Play as DVD-Video". |
| **Play as DVD-VR, Play as HighMAT** or **Play as Data Disc** | **To use functions for data discs** (➜ page 17)<br>(To play JPEG, MP3, MPEG4 or DivX video contents on DVD-RAM, or to play a HighMAT disc without using HighMAT function)<br>Select "Play as Data Disc". |



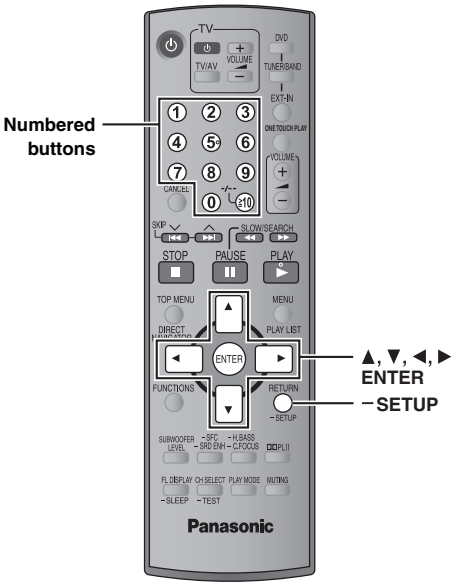
## Confirming HDMI information

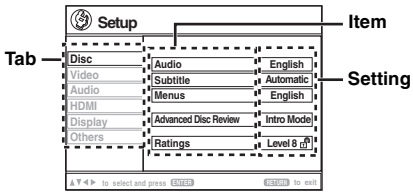

■ HDMI Status—HDMI is connected.
Connection status
HDMI Information
Audio Stream PCM
Shows the output signal type.
Max Channel 2ch
Shows the number of audio channels.
Video Format 480p/576p/720p/1080i
(➜ page 21, Video Output Mode)
Colour Space YCbCr (4:4:4)/YCbCr (4:2:2)/RGB
(➜ page 22, HDMI Colour Space)

**Note**

- All possible types of output are displayed.
- The current output for "Audio Stream", "Video Format" and "Colour Space" will be underlined.
  (If you select a video output without an "∗" mark in the "Video Output Mode" in Picture Menu, the selected video format will not be underlined.)
- When "Off" is selected in "Audio Output" (➜ page 26, "HDMI" tab), "– – –" will be displayed in "Audio Stream" and "Max Channel".

# Changing the player settings




- The settings remain intact even if you switch the unit to standby.
- Underlined items are the factory settings in the following diagram.

**1** – SETUP

**Press and hold to show the Setup menu.**
**If you have not performed QUICK SETUP (➜ page 11), the QUICK SETUP screen appears.**

**2** Select / Go right

**Select the tab.**

**3** Select / Register

**Select the item.**

**4** Select / Register

**Make the settings.**

**5** – SETUP

**Press and hold to exit.**

**QUICK SETUP enables successive settings of the items in the shaded area.**

## ■ "*Disc*" tab

| | | | | | | |
|---|---|---|---|---|---|---|
| **Audio**<br>Choose the audio language. | ● English | ● French | ● German | ● Italian | ● Spanish | ● Polish |
| | ● Swedish | ● Dutch | ● Original※1 | ● Other✳✳✳✳※2 | | |
| **Subtitle**<br>Choose the subtitle language. | ● Automatic※3 | ● English | ● French | ● German | ● Italian | ● Spanish |
| | ● Polish | ● Swedish | ● Dutch | ● Other✳✳✳✳※2 | | |
| **Menus**<br>Choose the language for disc menus. Changing the menu language in QUICK SETUP also changes this setting. | ● English | ● French | ● German | ● Italian | ● Spanish | ● Polish |
| | ● Swedish | ● Dutch | ● Other✳✳✳✳※2 | | | |
| **Advanced Disc Review**<br>(➜ page 21) | ● Intro Mode: Reviews each title/program.<br>● Interval Mode: Reviews not only each title/program but also each 10-minute interval within a title/program. | | | | | |
| **Ratings**<br>Set a rating level to limit DVD-Video play. | Setting ratings (When level 8 is selected)<br>● 8 No Limit ● 1 to 7 ● 0 Lock All: To prevent play of discs without rating levels. | | | | | |
| | When you select your ratings level, a password screen is shown.<br>Follow the on-screen instructions.<br>**Do not forget your password.**<br>A message screen will be shown if a DVD-Video disc exceeding the rating level is inserted in the unit.<br>Enter your password and then follow the on-screen instructions. | | | | | |

※1 The original language designated on the disc is selected.
※2 Input the appropriate code from the language code list (➜ page 27).
※3 If the language selected for "Audio" is not available, subtitles appear in that language (if available on the disc).

**QUICK SETUP enables successive settings of the items in the shaded area.**

## ■ "*Video*" tab

| | |
|---|---|
| **TV Aspect**<br>Choose the setting to suit your television and preference. | ● 4:3 Pan&Scan: Regular aspect television (4:3)<br>The sides of the widescreen picture are cut off so it fills the screen (unless prohibited by the disc). |
| | ● 4:3 Letterbox: Regular aspect television (4:3)<br>Widescreen picture is shown in the letterbox style. |
| | ● 16:9: Widescreen television (16:9) |
| **TV Type**<br>Select to suit the type of television. | ● Standard (Direct View TV) ● CRT Projector ● LCD TV/Projector<br>● Projection TV ● Plasma TV |
| **Time Delay**<br>When connected with a Plasma display, adjust if you notice the audio is out of sync with the video. | ● 0ms ● 20ms ● 40ms ● 60ms ● 80ms ● 100ms |
| **Video Out (AV/Component)**<br>Choose the video signal format to be output from the SCART (AV) and Component terminal. | ● Video/YPbPr ● S-Video/YPbPr<br>● RGB/No Output |
| **Still Mode**<br>Specify the type of picture shown when paused. | ● Automatic<br>● Field※4: The picture is not blurred, but picture quality is lower.<br>● Frame※4: Overall quality is high, but the picture may appear blurred. |
| **NTSC Disc Output**<br>Choose PAL 60 or NTSC output when playing NTSC discs (➜ page 13, Video systems). | ● PAL60: When connected to a PAL television.<br>● NTSC: When connected to an NTSC television. |
| **Picture/Video Output**<br>Change the video signal format to be output for JPEG, MPEG4 and DivX video if picture output is not smooth during playback. | ● Automatic ● PAL<br>● NTSC/PAL60: Output will depend on "NTSC Disc Output" setting (➜ above). |

※4 Refer to "Frame still and field still" (➜ page 39, Glossary).

## ■ "*Audio*" tab

| | |
|---|---|
| **Dynamic Range Compression** | ● Off<br>● On: Adjusts for clarity even when the volume is low by compressing the range of the lowest sound level and the highest sound level. Convenient for late night viewing. (Only works with Dolby Digital) |
| **Speaker Settings (➜ page 27)**<br>Set the delay time for your center and surround speakers. | ● Center: 0.0/1.0/2.0/3.0/4.0/5.0 ms<br>● Surround (L/R): 0.0/5.0/10.0/15.0 ms |



(Continued on next page)

# Changing the player settings

**QUICK SETUP enables successive settings of the items in the shaded area.**

## ■ "*HDMI*" tab

| | |
|---|---|
| **RGB Range**<br>Set "HDMI Colour Space" to "RGB" (➜ page 22, Picture Menu). | ● Standard<br>● Enhanced: When the black and white images are not distinct. |
| **Video Output**<br>(This setting is irrelevant when connected through the VIDEO OUT or S-VIDEO OUT terminal.) | ● On: When connected through the HDMI AV OUT terminal. Video is output from the HDMI terminal. Video is also output from the COMPONENT VIDEO OUT terminal, but only in 480p or 576p (progressive). When connected through the SCART (AV) terminal, RGB signal is not output.<br>● Off: When connected through the COMPONENT VIDEO OUT or SCART (AV) terminal. Video is not output from the HDMI AV OUT terminal, but from the COMPONENT VIDEO OUT terminal according to the setting of the "Video Output Mode" (➜ page 21, Picture Menu) or SCART (AV) terminal according to the setting of the "Video Out (AV/Component)" in the "Video" tab (➜ page 25). |
| **Audio Output** | ● On: When audio output is from the HDMI AV OUT terminal. (Depending on the capabilities of the connected equipment, audio output may differ from the audio settings of the main unit.)<br>● Off: When audio output is not from the HDMI AV OUT terminal. (The audio is output using the settings of the main unit.) |
| **Control with HDMI**<br>(HDAVI Control) | ● On: The HDAVI Control function is available (➜ page 34).<br>● Off |

## ■ "*Display*" tab

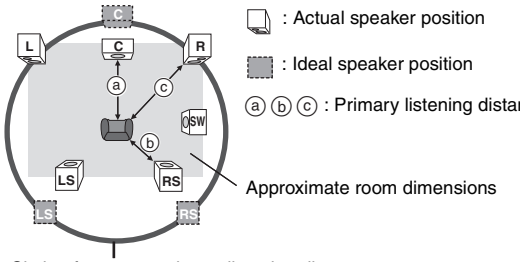
| | |
|---|---|
| **Menu Language** | ● English ● Français ● Deutsch ● Italiano ● Español<br>● Polski ● Svenska ● Nederlands |
| **On-Screen Messages** | ● On ● Off |
| **Background during Play**<br>Select background during JPEG, MPEG4 and DivX video playback. | ● Black ● Grey |

## ■ "*Others*" tab

| | |
|---|---|
| **FL Dimmer**<br>Change the brightness of the unit's display. | ● Bright ● Dim<br>● Auto: The display is dimmed, but brightens when you perform some operations. |
| **DivX Registration**<br>Display the unit's registration code. | You need this registration code to purchase and play DivX Video-on-Demand (VOD) content (➜ page 35, About DivX VOD content). |
| **QUICK SETUP** | ● Yes ● No |
| **Re-initialise Setting**<br>Return all values in the Setup menus to the default settings. | ● Yes: The password screen is shown if "Ratings" (➜ page 24) is set. Please enter the same password. After "INIT" on the display disappears, turn the unit off and on again.<br>● No |

## Changing the delay time of the speakers

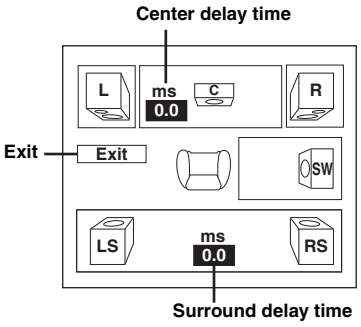
**(Effective when playing multi-channel audio)**
(Center and surround speakers only)
For optimum listening with 5.1-channel sound, all the speakers, except for the subwoofer, should be the same distance from the seating position.
If you have to place the center or surround speakers closer to the seating position, adjust the delay time to make up for the difference.




If either distance ⓐ or ⓑ is less than ⓒ, find the difference in the table and change to the recommended setting.

| ⓐ Center speaker | | ⓑ Surround speaker | |
|---|---|---|---|
| Difference (Approx.) | Setting | Difference (Approx.) | Setting |
| 30 cm | 1.0 ms | 150 cm | 5.0 ms |
| 60 cm | 2.0 ms | 300 cm | 10.0 ms |
| 90 cm | 3.0 ms | 450 cm | 15.0 ms |
| 120 cm | 4.0 ms | | |
| 150 cm | 5.0 ms | | |

**1 Press [▲, ▼] to select the delay time box and press [ENTER].**
**2 Press [▲, ▼] to adjust the delay time and press [ENTER].**




**To finish the speaker setting**
Press [◀] to select "Exit" and press [ENTER].

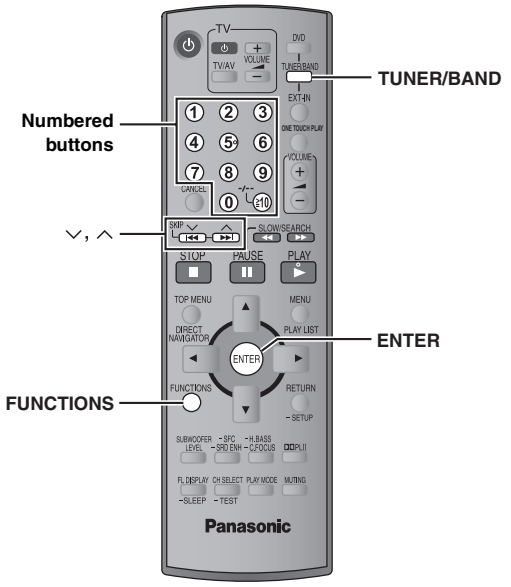
When you change the surround speaker setting for Dolby Digital, the setting also changes for Dolby Pro Logic II.
e.g., the settings for Music are the same as those for Dolby Digital.

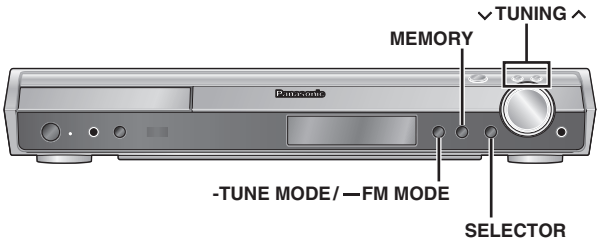
| Dolby Digital | Dolby Pro Logic II | |
|---|---|---|
| | Music | Movie |
| 0 ms | 0 ms | 10 ms |
| 5 ms | 5 ms | 15 ms |
| 10 ms | 10 ms | 20 ms |
| 15 ms | 15 ms | 25 ms |

## Language code list

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Abkhazian: | 6566 | Danish: | 6865 | Italian: | 7384 | Norwegian: | 7879 | Swedish: | 8386 |
| Afar: | 6565 | Dutch: | 7876 | Japanese: | 7465 | Oriya: | 7982 | Tagalog: | 8476 |
| Afrikaans: | 6570 | English: | 6978 | Javanese: | 7487 | Pashto, Pushto: | 8083 | Tajik: | 8471 |
| Albanian: | 8381 | Esperanto: | 6979 | Kannada: | 7578 | Persian: | 7065 | Tamil: | 8465 |
| Ameharic: | 6577 | Estonian: | 6984 | Kashmiri: | 7583 | Polish: | 8076 | Tatar: | 8484 |
| Arabic: | 6582 | Faroese: | 7079 | Kazakh: | 7575 | Portuguese: | 8084 | Telugu: | 8469 |
| Armenian: | 7289 | Fiji: | 7074 | Kirghiz: | 7589 | Punjabi: | 8065 | Thai: | 8472 |
| Assamese: | 6583 | Finnish: | 7073 | Korean: | 7579 | Quechua: | 8185 | Tibetan: | 6679 |
| Aymara: | 6589 | French: | 7082 | Kurdish: | 7585 | Rhaeto-Romance: | 8277 | Tigrinya: | 8473 |
| Azerbaijani: | 6590 | Frisian: | 7089 | Laotian: | 7679 | Romanian: | 8279 | Tonga: | 8479 |
| Bashkir: | 6665 | Galician: | 7176 | Latin: | 7665 | Russian: | 8285 | Turkish: | 8482 |
| Basque: | 6985 | Georgian: | 7565 | Latvian, Lettish: | 7686 | Samoan: | 8377 | Turkmen: | 8475 |
| Bengali, Bangla: | 6678 | German: | 6869 | Lingala: | 7678 | Sanskrit: | 8365 | Twi: | 8487 |
| Bhutani: | 6890 | Greek: | 6976 | Lithuanian: | 7684 | Scots Gaelic: | 7168 | Ukrainian: | 8575 |
| Bihari: | 6672 | Greenlandic: | 7576 | Macedonian: | 7775 | Serbian: | 8382 | Urdu: | 8582 |
| Breton: | 6682 | Guarani: | 7178 | Malagasy: | 7771 | Serbo-Croatian: | 8372 | Uzbek: | 8590 |
| Bulgarian: | 6671 | Gujarati: | 7185 | Malay: | 7783 | Shona: | 8378 | Vietnamese: | 8673 |
| Burmese: | 7789 | Hausa: | 7265 | Malayalam: | 7776 | Sindhi: | 8368 | Volapük: | 8679 |
| Byelorussian: | 6669 | Hebrew: | 7387 | Maltese: | 7784 | Singhalese: | 8373 | Welsh: | 6789 |
| Cambodian: | 7577 | Hindi: | 7273 | Maori: | 7773 | Slovak: | 8375 | Wolof: | 8779 |
| Catalan: | 6765 | Hungarian: | 7285 | Marathi: | 7782 | Slovenian: | 8376 | Xhosa: | 8872 |
| Chinese: | 9072 | Icelandic: | 7383 | Moldavian: | 7779 | Somali: | 8379 | Yiddish: | 7473 |
| Corsican: | 6779 | Indonesian: | 7378 | Mongolian: | 7778 | Spanish: | 6983 | Yoruba: | 8979 |
| Croatian: | 7282 | Interlingua: | 7365 | Nauru: | 7865 | Sundanese: | 8385 | Zulu: | 9085 |
| Czech: | 6783 | Irish: | 7165 | Nepali: | 7869 | Swahili: | 8387 | | |

# Using the radio




## Presetting stations automatically

*Main unit only*

Up to 15 stations can be set in each band, FM and AM.

**1** **Press [SELECTOR] to select “FM” or “AM”.**

**2** **Press [-TUNE MODE] to select “MANUAL”.**
Each time you press the button: MANUAL⟷PRESET

**3** **Press [∨ TUNING ∧] to tune to the lowest frequency (FM: 87.50, AM: 522).**

**4** **Press and hold [MEMORY].**
Release the button when “FM AUTO” or “AM AUTO” is displayed.

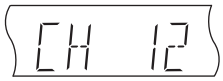
The tuner presets all the stations it can receive into the channels in ascending order.
- “SET OK” is displayed when the stations are set, and the radio tunes to the last preset station.
- “ERROR” is displayed when automatic presetting is unsuccessful. Preset the channels manually (➜ right).

## Selecting the preset channels

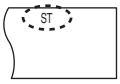
**1** **Press [TUNER/BAND] to select “FM” or “AM”.**

**2** **Press the numbered buttons to select the channel.**
- To select a 2-digit number
  e.g. 12: [≧10] ➜ [1] ➜ [2]

Alternatively, press [∨, ∧].



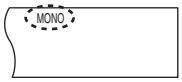

When a stereo FM broadcast is being received, “ST” lights in the display.




### ■ *If noise is excessive*

**When “FM” is selected**

**Press and hold [—FM MODE] on the main unit to display “MONO”.**




Press and hold [—FM MODE] again to cancel the mode.
- The mode is also canceled when you change the frequency.

**When “AM” is selected**

**Press [FUNCTIONS] on the remote control.**
Each time you press the button: BP 2⟷BP 1

## Manual tuning

*Main unit only*

**1** **Press [SELECTOR] to select “FM” or “AM”.**

**2** **Press [-TUNE MODE] to select “MANUAL”.**

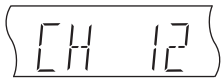
**3** **Press [∨ TUNING ∧] to select the frequency.**
- To start automatic tuning, press and hold [∨ TUNING ∧] until the frequency starts scrolling. Tuning stops when a station is found.

### ■ *Presetting the channel*

Up to 15 stations can be set in each band, FM and AM.

① While listening to the radio broadcast
**Press [ENTER].**

② While the frequency and “PGM” are flashing on the display
**Press the numbered buttons to select a channel.**
- To select a 2-digit number
  e.g. To select 12:
  [≧10] ➜ [1] ➜ [2]




Alternatively, press [∨, ∧], and then press [ENTER].

The station occupying a channel is erased if another station is preset to that channel.

## RDS broadcasting

The unit can display the text data transmitted by the radio data system (RDS) available in some areas.
If the station you are listening to is transmitting RDS signals, “RDS” will light up on the display.

**When “FM” is selected**

**Press [FUNCTIONS] to display the text data.**

Each time you press the button:
PS (factory preset)→PTY→ Frequency display

| PTY displays | | | |
|---|---|---|---|
| NEWS | VARIED | FINANCE | COUNTRY |
| AFFAIRS | POP M | CHILDREN | NATIONAL |
| INFO | ROCK M | SOCIAL A | OLDIES |
| SPORT | M.O.R. M※ | RELIGION | FOLK M |
| EDUCATE | LIGHT M | PHONE IN | DOCUMENT |
| DRAMA | CLASSICS | TRAVEL | TEST |
| CULTURE | OTHER M | LEISURE | ALARM |
| SCIENCE | WEATHER | JAZZ | |

※“M.O.R. M”=Middle of the road music

**Note**

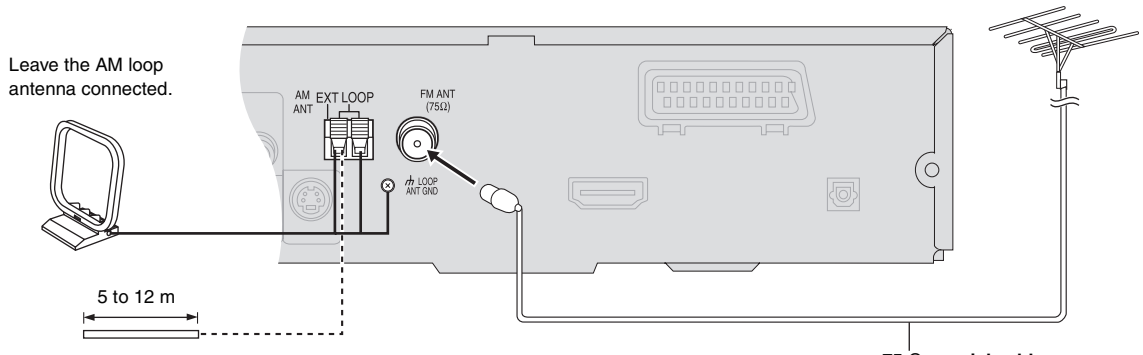
RDS displays may not be available if reception is poor.

## Using an outdoor antenna (optional)

Use outdoor antennas if radio reception is poor.
- Disconnect the antenna when the unit is not in use.
- Do not use the outdoor antenna during an electrical storm.

### FM outdoor antenna (Using a television antenna)

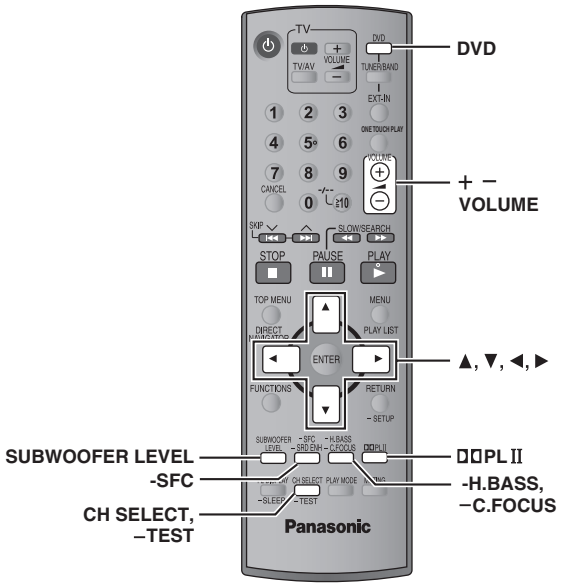
- Disconnect the FM indoor antenna.
- The antenna should be installed by a competent technician.




### AM outdoor antenna (Using a vinyl wire)

Run a piece of vinyl wire horizontally across a window or other convenient location.

# Using sound effects




**Note**

- The following sound effects may not be available or have no effect depending on the type of source, or when headphones are used.
- You may experience a reduction in sound quality when these sound effects are used with some sources. If this occurs, turn the sound effects off.
- It is not possible to turn on Surround Enhancer and Sound Field Control at the same time.

## Changing the sound quality: Sound Field Control

-SFC
–SRD ENH

**Press [-SFC].**

**Each time you press the button:**

**FLAT:** Cancel (no effect is added) (factory preset).
**MOVIE:** Use this mode when playing movie software.
**SPORT:** Simulates sound to make you feel like you are at a sports event.
**MUSIC:** Adds surround effects to stereo sources.
**HEAVY:** Adds punch to rock.
**CLEAR:** Clarifies higher sounds.
**SOFT:** For background music.

- To check the current setting, press [-SFC].
- MOVIE, SPORT and MUSIC are not available when Dolby Pro Logic II is on, or when playing a disc recorded with a multi-channel source.
- You can adjust the volume of the surround speakers to get the best surround effect (➜ page 31, Adjusting the volume of each speaker: Speaker level adjustments).
- When MOVIE, SPORT or MUSIC is turned on, you can enjoy audio from your television in 5.1-channel surround sound (➜ page 33).

## Enhancing the sound from the center speaker: Center Focus

–C.FOCUS

**This applies to discs where the dialogue is recorded in the center channel.**

You can make the sound of the center speaker seem like it is coming from within the television.

**Press and hold [—C.FOCUS].**

**Each time you press and hold the button:**
C FOCUS ON⟷C FOCUS OFF

- This does not work when Sound Field Control (MOVIE, SPORT or MUSIC) is turned on.
- This also works when Dolby Pro Logic II is turned on.

## Enhancing the stereo sound: Dolby Pro Logic II

DDPLII

Except DivX

Dolby Pro Logic II is an advanced decoder that derives 5-channel surround (Left and Right Front, Center, Left and Right Surround) from stereo sound sources, whether or not it has been specifically Dolby Surround encoded.

**Press [DDPLII].**

**Each time you press the button:**

**Movie:** Movie software, recorded in Dolby Surround.
**Music:** Stereo sources
**Off:** Cancel

- This works only in DVD/CD or Digital In mode.
- "DDPLII" lights when there is effect.
- This does not work when audio is output from HDMI AV OUT terminal.
- This does not work when "AUDIO L" or "AUDIO R" is selected in Audio Mode (➜ page 33).

## Adjusting the amount of bass: Subwoofer level

SUBWOOFER LEVEL

You can adjust the amount of bass. The unit automatically selects the most suitable setting according to the type of playback source.

**Press [SUBWOOFER LEVEL].**

- DVD-V DVD-VR
  SUB W 4 (factory preset)→SUB W 1→SUB W 2→SUB W 3
- **When another source is selected**
  SUB W 2 (factory preset)→SUB W 3→SUB W 4→SUB W 1

- To check the current setting, press [SUBWOOFER LEVEL].
- The setting you make is retained, and recalled every time you play the same type of source, except when Sound Field Control (MOVIE, SPORT or MUSIC) is turned on.

※ When Sound Field Control (MOVIE, SPORT or MUSIC) is on, the factory presets are as follows:
– MOVIE: SUB W 4
– SPORT: SUB W 2
– MUSIC: SUB W 1

## Enhancing the bass sound: H.BASS

-H.BASS
-C.FOCUS

You can enhance low-frequency sound so that heavy bass sound can be heard clearly, even if the acoustics of your room are not optimal. The unit automatically selects the most suitable setting according to the type of playback source.

**Press [-H.BASS].**

● DVD-V DVD-VR
H.BASS ON (factory preset)⟷H.BASS OFF

● **When another source is selected**
H.BASS OFF (factory preset)⟷H.BASS ON

The setting you make is retained, and recalled every time you play from the same type of source.

## Enhancing the surround sound effect: Surround Enhancer

-SFC
-SRD ENH

**Press and hold [—SRD ENH].**

**Each time you press and hold the button:**
SRD ENH ON⟷SRD ENH OFF

## Adjusting the volume of each speaker: Speaker level adjustments

CH SELECT
-TEST

This is one of the ways to get appropriate surround effects.

**Preparation**
Press [DVD].

**1** While stopped and no on-screen display is shown
**Press and hold [—TEST] to output a test signal.**
● To stop the test signal, press and hold [—TEST] again.

L: Front left C: Center R: Front right
RS: Right surround LS: Left surround

● There is no output from SW (subwoofer) channel.

**2** **Press [VOLUME, +] or [−] to set the volume level normally used for listening.**

**3** **Press [▲] (increase) or [▼] (decrease) to adjust the speaker level for each speaker.**
● Adjust the speaker levels to the same level as the front speakers.
C, RS, LS: −6 dB to +6 dB

### ■ *To adjust speaker level during play*

[Effective when playing multi-channel audio or when Dolby Pro Logic II or Sound Field Control (MOVIE, SPORT or MUSIC) is on.]

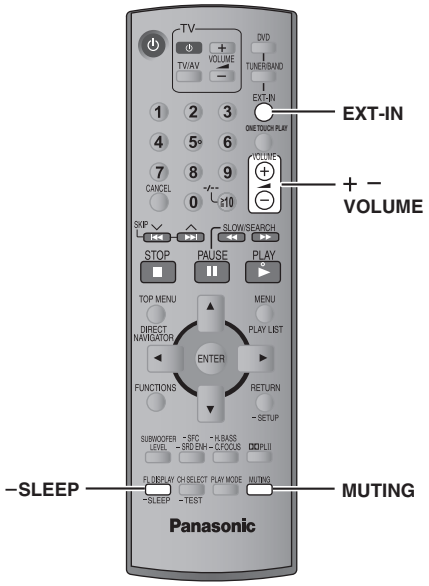
① **Press [CH SELECT] to select the speaker.**
L ⟶C ⟶R ⟶RS ⟶LS ⟶SW
↑_____↓
SW: Subwoofer

● You can adjust SW only if the disc includes a subwoofer channel.
● "SW" does not appear on the display and is not adjustable when "DD PLII" is lit.
● "S" appears on the display when "MOVIE", "SPORT" or "MUSIC" is selected with Sound Field Control (➜ page 30). In this case, you can adjust both surround speaker levels at the same time using [▲, ▼].
S: −6 dB to +6 dB

② **Press [▲] (increase) or [▼] (decrease) to adjust the speaker level for each speaker.**
C, RS, LS, SW: −6 dB to +6 dB
(L, R: Only the balance is adjustable.)

● To adjust the balance of the front speakers, while "L" or "R" is selected, press [◄, ►].

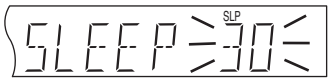
# Using other useful functions




## Setting the sleep timer

– SLEEP

**1 Press and hold [—SLEEP].**




**2 While the time is shown**
**Press [—SLEEP] to select the time (in minutes).**

SLEEP 30 → SLEEP 60 → SLEEP 90
↑ OFF ← SLEEP120 ←

**To cancel the timer**
While the time is shown, press [—SLEEP] to select “OFF”.

**To confirm the remaining time**
Press and hold [—SLEEP] again.

**To change the setting**
Repeat the procedure from the beginning.

## Muting the sound

MUTING

**Press [MUTING].**

“MUTING” flashes on the unit’s display.

**To cancel**
- Press [MUTING] again or reduce the volume to minimum “VOL 0”, and then raise it to the required level.
- Muting is canceled when you switch the unit to standby.

## Using headphones

*Main unit only*

**1 Reduce the volume and connect the headphones (not included).**
Headphone plug type: ∅3.5 mm stereo mini plug

**2 Adjust headphone volume with [VOLUME].**
- Audio is automatically switched to 2-channel stereo.

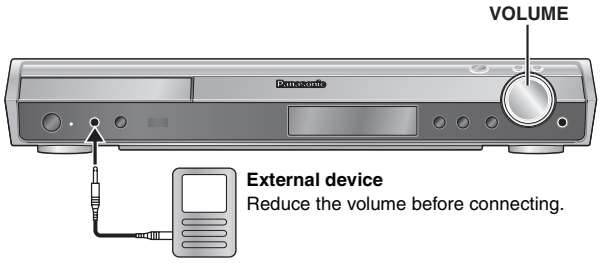
**Note**
To prevent hearing damage, avoid listening for prolonged periods of time.

## Using the Music Port

The Music Port allows you to connect and enjoy music from an external device (e.g. MP3 player) through your home theater system.

**Preparation**
To avoid distorted sound, make sure that any equalizer function of your external device is turned off.

**1 Reduce the volume and connect the external device (not included).**
Plug type: ∅3.5 mm stereo mini plug



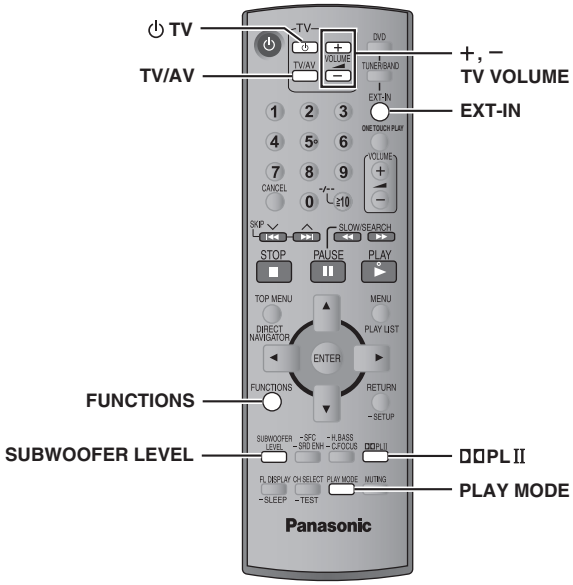

**External device**
Reduce the volume before connecting.

**2 Press [EXT-IN] to select “MUSIC P.”.**

MUSIC P. → TV → AUX
↑ D-IN (Digital In) (➜ page 33) ←

**3 Adjust the external device volume to a normal listening level, and then adjust the volume of the main unit with [VOLUME].**
- You can enjoy surround sound when you turn on Sound Field Control (MOVIE, SPORT or MUSIC) (➜ page 30).

# Operating other equipment




## Operating the television

You can use the remote control to operate a Panasonic television. Connect your equipment referring to “Cable TV box or video cassette recorder connection” (➜ page 9).

**Note**

The remote control may not work properly with some models.

**Aim the remote control at the television.**

**Turning the television on/off**

Press [⏻ TV].

**Switching the television’s video input mode**

Press [TV/AV].

**Adjusting the volume**

Press [+, − TV VOLUME].

**To play audio from your television through your home theater system**

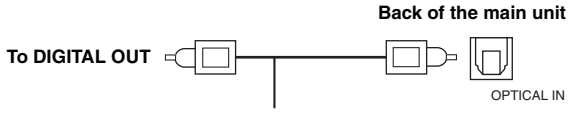
Press [EXT-IN] to select “TV” or “AUX” as the source, reduce the volume on the television to its minimum, and control the volume on the main unit. Each time you press the button:

MUSIC P.⟶TV⟶AUX
↑——— D-IN ←——┘

- You can enjoy 5.1-channel surround sound when you turn on Sound Field Control (MOVIE, SPORT or MUSIC) (➜ page 30).

## Operating the cable TV box, digital broadcasting or satellite receiver

This unit can decode the surround signals received through cable TV box, digital broadcasting or satellite broadcasts. Refer to your equipment’s operating instructions for details. Only Dolby Digital and PCM can be played with this connection.




**Optical digital audio cable** (not included)

- Do not bend sharply when connecting.

**Press [EXT-IN] several times to select “D-IN” (Digital In) as the source.**

- **Main unit:** Press [SELECTOR] several times.

**When you select “D-IN” as the source, you can select the following sound effects.** (These functions only work with Dolby Digital or PCM, excluding Audio Mode, which only works with Dolby Digital Dual Mono.)

**PCM FIX Mode**

Press and hold [FUNCTIONS].

**PFIX ON**: Select when receiving only PCM signals.

**PFIX OFF** (factory preset): Select when receiving Dolby Digital and PCM signals.

**Dynamic Range Compression**

Press and hold [SUBWOOFER LEVEL].

**DRC ON**: Adjusts for clarity even when the volume is low by compressing the range of the lowest sound level and the highest sound level. Convenient for late night viewing. (Only works with Dolby Digital)

**DRC OFF** (factory preset)

**Audio Mode**

Press and hold [PLAY MODE].

**AUDIO ST, AUDIO L, AUDIO R** (“AUDIO L” and “AUDIO R” only appear when the signal is Dolby Digital Dual Mono.)

**Dolby Pro Logic II** (➜ **page 30**)

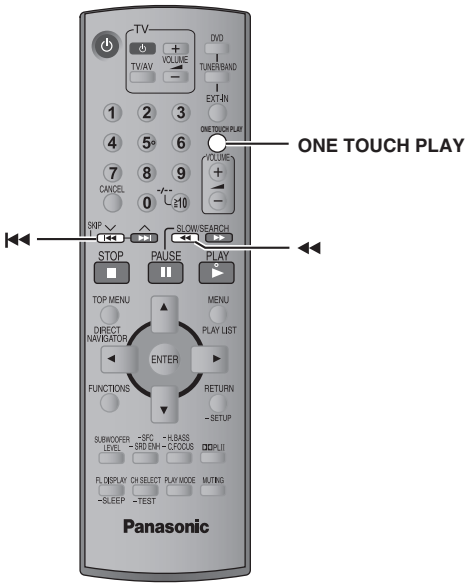
Press [▯▯PLII].

**Note**

Audio that is input through the OPTICAL IN terminal cannot be output through the HDMI terminal.

# Operating both the television and the home theater system: Control with HDMI (HDAVI Control)






**What is HDAVI Control?**

HDAVI Control is a convenient function that offers linked operation of this unit and Panasonic TV (VIERA) with HDAVI Control. You can use this function by connecting the equipment with the HDMI cable. For operational details, see the operating instructions of the connected equipment.

**Preparation**

- Confirm that the HDMI connection (➜ page 8) has been made.
- Confirm that the scart cable is **not** connected.
- Set “Control with HDMI” (HDAVI Control) to “On” (➜ page 26, “HDMI” tab).
- To complete and activate the connection correctly, turn on all HDAVI Control compatible equipment and select the input channel corresponding to the home theater on the television.

- Whenever the connection or settings are changed, reconfirm the points above.
- When you turn off the main unit, TV selector changes to TV tuner.

## One Touch Play

You can turn on the main unit and television, and start playing the disc in the play position with a single press of a button.

**Press [ONE TOUCH PLAY].**

**Note**

Playback may not be immediately displayed on the television. If you miss the beginning portion of playback, press [|◀◀] or [◀◀] to go back to where playback started.

## Theater speaker

You can select whether audio is output from the home theater system or the television by using the television settings. For details, refer to the operating instructions of your television.

**When audio is output from the home theater speakers**

- The television speakers are automatically muted.
- You can control the volume setting using the volume or mute button on the television remote control. (The volume level is displayed on the main unit’s FL display.)
- If you turn off the home theater system, speakers automatically switch to the television.

**When audio is output from the television speakers**

- The volume of the home theater system is set to “0”.
- Audio output is 2-channel audio.

- To cancel muting, you can also use the home theater remote control (➜ page 32, Muting the sound).
- When switching between the home theater system and television speakers, the TV screen may be blank for several seconds.
- You can set whether the main unit will automatically switch to “TV” or “D-IN” by pressing and holding [RETURN] while the main unit is in “TV” or “D-IN” mode respectively.

## Power off link

When the television is turned off, the home theater system goes into standby mode automatically.

- This function works only when “DVD/CD”, “TV”* or “D-IN”* is selected as the source on the home theater system.

* Depending on the function setting you made above, “TV” or “D-IN”, Power off link works only when:

- The function is set to “TV”, and “TV” is selected as the source.
- The function is set to “D-IN”, and “D-IN” is selected as the source.

# Safety precautions

## Placement

Set the unit up on an even surface away from direct sunlight, high temperatures, high humidity, and excessive vibration. These conditions can damage the cabinet and other components, thereby shortening the unit's service life.
Do not place heavy items on the unit.

## Voltage

Do not use high voltage power sources. This can overload the unit and cause a fire.
Do not use a DC power source. Check the source carefully when setting the unit up on a ship or other places where DC is used.

## AC mains lead protection

Ensure the AC mains lead is connected correctly and not damaged. Poor connection and lead damage can cause fire or electric shock. Do not pull, bend, or place heavy items on the lead.
Grasp the plug firmly when unplugging the lead. Pulling the AC mains lead can cause electric shock.
Do not handle the plug with wet hands. This can cause electric shock.

## Foreign matter

Do not let metal objects fall inside the unit. This can cause electric shock or malfunction.
Do not let liquids get into the unit. This can cause electric shock or malfunction. If this occurs, immediately disconnect the unit from the power supply and contact your dealer.
Do not spray insecticides onto or into the unit. They contain flammable gases which can ignite if sprayed into the unit.

## Service

Do not attempt to repair this unit by yourself. If sound is interrupted, indicators fail to light, smoke appears, or any other problem that is not covered in these instructions occurs, disconnect the AC mains lead and contact your dealer or an authorized service center. Electric shock or damage to the unit can occur if the unit is repaired, disassembled or reconstructed by unqualified persons.

Extend operating life by disconnecting the unit from the power source if it is not to be used for a long time.

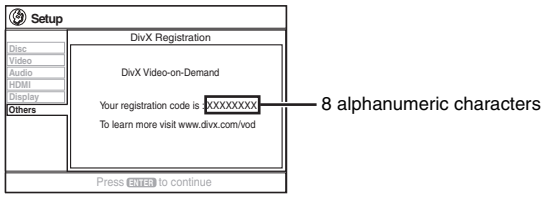
# About DivX VOD content

DivX Video-on-Demand (VOD) content is encrypted for copyright protection. In order to play DivX VOD content on this unit, you first need to register the unit.

Follow the online instructions for purchasing DivX VOD content to enter the unit's registration code and register the unit. For more information about DivX VOD, visit www.divx.com/vod.

### Display the unit's registration code

(➜ page 26, "DivX Registration" in "Others" tab)




- We recommend that you make a note of this code for future reference.
- After playing DivX VOD content for the first time, another registration code is then displayed in "DivX Registration". Do not use this registration code to purchase DivX VOD content. If you use this code to purchase DivX VOD content, and then play the content on this unit, you will no longer be able to play any content that you purchased using the previous code.
- If you purchase DivX VOD content using a registration code different from this unit's code, you will not be able to play this content. ("Authorization Error" is displayed.)

### Regarding DivX content that can only be played a set number of times

Some DivX VOD content can only be played a set number of times. When you play this content, the remaining number of plays is displayed. You cannot play this content when the number of remaining plays is zero. ("Rented Movie Expired" is displayed.)

When playing this content
- The number of remaining plays is reduced by one if
  – you press [⏻] or press and hold [—SETUP].
  – you press [■ STOP]. (Press [❚❚ PAUSE] to pause play.)
  – you press [|◀◀, ▶▶| SKIP] or [◀◀, ▶▶ SLOW/SEARCH] etc. and arrive at another content or the start of the content being played.
- Resume (➜ page 15, Stop) and Marker (➜ page 21, Play Menu) functions do not work.

# Troubleshooting guide

Before requesting service, make the following checks. If you are in doubt about some of the check points, or if the solutions indicated in the chart do not solve the problem, consult your dealer for instructions.

### Power

| | | Page |
|---|---|---|
| **No power.** | ● Insert the AC mains lead securely. | **10** |
| **The unit is automatically switched to standby mode.** | ● The Sleep timer was working and had reached the set time limit. | **32** |

### Unresponsive or inoperable function

| | | |
|---|---|---|
| **No response when any buttons are pressed.** | ● This unit cannot play discs other than the ones listed in these operating instructions.<br>● The unit may not be operating properly due to lightning, static electricity or some other external factor. Turn the unit off and then back on. Alternatively, turn the unit off, disconnect the AC mains lead, and then reconnect it.<br>● Condensation has formed. Wait 1 to 2 hours for it to evaporate. | **13**<br>**—**<br>**—** |
| **No response when remote control buttons are pressed.** | ● Check that the batteries are installed correctly.<br>● The batteries are depleted. Replace them with new ones.<br>● Aim the remote control at the remote control signal sensor and operate. | **10**<br>**10**<br>**12** |
| **No picture or sound.** | ● Check the video or speaker connection.<br>● Check the power or input setting of the connected equipment and the main unit.<br>● Check that the disc has something recorded on it. | **5, 8, 9**<br>**—**<br>**—** |
| **You have forgotten your ratings password.**<br>Reset all the settings to Factory Preset. | ● While stopped and “DVD/CD” is the source, press and hold [■] (Stop) on the main unit and [≧10] on the remote control until “Initialised” disappears from the television. Turn the unit off and on again.<br>All settings will return to the default values. | **—** |
| **The HDAVI Control function does not respond.** | ● Depending on the condition of the home theater system or the connected equipment, it may be necessary to repeat the same operation so that the function can work correctly. | **34** |

### Specific operation undesirable or unexpected

| | | |
|---|---|---|
| **It takes time before play starts.** | ● Play may take time to begin when an MP3 track has still picture data. Even after the track starts, the correct play time will not be displayed. This is normal. MP3<br>● This is normal on DivX video. DivX | **—**<br>**—** |
| **Folders on a data CD are not displayed correctly.**<br>WMA MP3 JPEG MPEG4 DivX | ● Folders deeper than the eighth layer are displayed as the eighth layer. | **—** |
| **A menu screen appears during skip or search.** VCD | ● This is normal for Video CDs. | **—** |
| **Playback control menu does not appear.** VCD with playback control | ● Press [■ STOP] twice and then press [► PLAY]. | **—** |
| **Program and Random play do not work.** DVD-V | ● These functions do not work with some DVD-Videos. | **—** |
| **Selecting audio soundtrack “2” does not change the audio.** DVD-A | ● Even if a second soundtrack is not recorded, two numbers are normally shown. | **—** |
| **Play does not start.** | ● This unit may not play WMA and MPEG4 that contains still picture data.<br>● If playing DivX VOD content, refer to the homepage where you purchased the DivX VOD content. (Example: www.divx.com/vod) DivX<br>● If a disc contains CD-DA and other formats, proper playback may not be possible. | **—**<br>**—**<br>**—** |
| **Play restarts from the beginning when the soundtrack is changed.** DVD-A | ● This is normal for DVD-Audio. | **—** |
| **Scenes are skipped intermittently.** DVD-VR DVD-V | ● If you change the volume or sound effects during Advanced Disc Review, the function continues without the on-screen display. Cancel the function. | **21** |

### Subtitle

| | | |
|---|---|---|
| **Subtitle position is wrong.** | ● Adjust the position. (“Subtitle Position” in Display Menu) | **23** |
| **No subtitles.** | ● Display the subtitles. (“Subtitle” in Main menu)<br>● Subtitles may not be displayed depending on the disc. DivX | **20**<br>**—** |

**Marker**

| | | Page |
|---|---|---|
| **Cannot add markers.** | ● You cannot add markers with DVD-RAM or DVD-R/-RW (DVD-VR) discs.<br>● If the disc's elapsed play time does not appear on the unit's display, you cannot add markers. | —<br>— |

**A-B repeat**

| | | |
|---|---|---|
| **Point B is automatically set.** | ● The end of an item becomes point B when it is reached. | — |

**Sound abnormal or improper**

| | | |
|---|---|---|
| **Sound is distorted.** | ● Noise may occur when playing WMA.<br>● When using the HDMI output, audio may not be output from other terminals. | —<br>— |
| **Effects do not work.** | ● Some audio effects do not work or have less effect with some discs. | — |
| **Humming is heard during play.** | ● An AC mains lead or fluorescent light is near the main unit. Keep other appliances and cables away from the main unit. | — |
| **No sound.** | ● There may be a slight pause in sound when you change the play speed.<br>● Audio may not be output due to how files were created. DivX<br>● Audio may not be heard when more than 4 devices are connected with HDMI cables. Reduce the number of connected devices.<br>● When using the HDMI connection, ensure that "Audio Output" in the "HDMI" tab is set to "On". | —<br>—<br>—<br>26 |
| **Sound mixed.** | ● If you are using the SCART (AV) terminal and the audio input terminals (TV AUDIO IN) at the same time, turn off the connected equipment at one or the other terminals. | — |

**Menus**

| | | |
|---|---|---|
| **The Setup menu cannot be accessed.** | ● Select "DVD/CD" as the source.<br>● Cancel All group, Program and Random play. | —<br>16 |

**Picture abnormal or unviewable**

| | | |
|---|---|---|
| **The picture on the television is not displayed correctly or disappears.** | ● The unit and television are using different video systems. Use a multi-system or PAL television.<br>● The system used on the disc does not match your television.<br>– PAL discs cannot be correctly viewed on an NTSC television.<br>– This unit can convert NTSC signals to PAL 60 for viewing on a PAL television ("NTSC Disc Output" in "Video" tab).<br>● Ensure that the unit is connected directly to the television, and is not connected through a video cassette recorder.<br>● Mobile telephone chargers can cause some disturbance.<br>● If you are using an indoor television antenna, change to an outdoor antenna.<br>● The television antenna wire is too close to the unit. Move it away from the unit.<br>● Change "Source Select" in Picture Menu. DivX<br>● Picture may not be seen when more than 4 devices are connected with HDMI cables. Reduce the number of connected devices.<br>● When using HDMI output, the video signal is progressive. Use other video connections if your television is not compatible with progressive video.<br>● If the picture is distorted or not displayed when using HDMI output, press and hold [CANCEL] until the picture is displayed correctly. (The output will return to "480p"or "576p".)<br>● When using SCART (AV) terminal, set "Video Output" in the "HDMI" tab to "Off". | —<br><br>—<br>25<br>9<br>—<br>—<br>—<br>22<br>—<br>9<br>—<br>26 |
| **Picture size does not fit the screen.** | ● Change "TV Aspect" in the "Video" tab.<br>● Use the television to change the aspect. If your television does not have that function, change "4:3 Aspect" in Display Menu.<br>● Change the zoom setting. ("Just Fit Zoom" or "Manual Zoom" in Display Menu) | 25<br>23<br>23 |
| **Picture stops.** DivX | ● Picture may stop if the DivX files are greater than 2 GB. | — |
| **Menu is not displayed correctly.** | ● Restore the zoom ratio to "×1.00". ("Manual Zoom" in Display Menu)<br>● Set "Subtitle Position" in Display Menu to "0".<br>● Set "4:3 Aspect" in Display Menu to "Normal". | 23<br>23<br>23 |
| **Auto zoom function does not work well.** | ● Turn off television zoom function.<br>● Use the other preset aspect ratios or manual adjustment.<br>● Zoom function may not work well, especially in dark scenes and may not work depending on the type of disc. | —<br>23<br>— |
| **When playing PAL disc, picture distorted.** | ● Set "Transfer Mode" in Picture Menu to "Auto". | 22 |

**Progressive video**

| | | |
|---|---|---|
| **There is ghosting when progressive or HDMI output is on.** | ● This problem is caused by the editing method or material used on DVD-Video, but should be corrected if you use interlaced output. Set "Video Output Mode" in Picture Menu to "480i" or "576i". (Alternatively, press and hold [CANCEL] to switch to "480i" or "576i".)<br>● Disable the HDMI AV OUT connection and use other video connections. Make the settings in the following order:<br>1 Set "Video Output" in the "HDMI" tab to "Off".<br>2 Set "Video Output Mode" in Picture Menu to "480i" or "576i". (Alternatively, press and hold [CANCEL] to switch to "480i" or "576i".) | 21<br><br>21, 26 |
| **Pictures not in progressive output.** | ● Select "480p" or "576p" in "Video Output Mode" in Picture Menu.<br>● The unit's VIDEO OUT, S-VIDEO OUT or SCART (AV) terminal outputs the interlaced signal even if "PRG" is displayed. | 21<br>9 |

(Continued on next page)

# Troubleshooting guide

### Listening to the radio

| | | Page |
|---|---|---|
| **Distorted sound or noise is heard.**<br>**"ST" flickers or does not light.** | • Adjust the position of the FM or AM antenna.<br>• Use an outdoor antenna. | —<br>29 |
| **A beat sound is heard.** | • Turn the television off or move it away from the unit. | — |
| **A low hum is heard during AM broadcasts.** | • Separate the antenna from other cables. | — |

### Unit displays

| | | |
|---|---|---|
| **The display is dark.** | • Select "Bright" in "FL Dimmer" in the "Others" tab. | **26** |
| **"NO PLAY"** | • You inserted a disc the unit cannot play; insert one it can.<br>• You inserted a blank disc.<br>• You inserted a disc that has not been finalized. | **13**<br>—<br>— |
| **"NO DISC"** | • You have not inserted a disc; insert one.<br>• You have not inserted the disc correctly; insert it correctly. | —<br>**14** |
| **"F61"** | • Check and correct the speaker cable connections. If this does not fix the problem, consult the dealer. | **5, 8** |
| **"DVD U11"** | • Disc may be dirty. Wipe it clean. | **13** |
| **"ERROR"** | • Incorrect operation performed. Read the instructions and try again. | — |
| **"DVD H□□"**<br>**"DVD F□□□"**<br>□ stands for a number. | • Trouble may have occurred. The numbers following "H" and "F" depend on the status of the unit. Turn the unit off and then back on. Alternatively, turn the unit off, disconnect the AC mains lead, and then reconnect it.<br>• If the service numbers fail to clear, note the service number and contact a qualified service person. | —<br>— |
| **"D.MIX" is flashing.** DVD-A | • Down-mixing is the process of remixing the multiple-channel audio found on some discs into two channels. The disc contains single-channel or multiple-channel signals which may not be reproduced authentically. | — |
| **"U701"** | • The connected equipment is not HDMI-compatible. | — |
| **"U70□"**<br>□ stands for a number.<br>The actual number following "U70" will depend on the state of the main unit. | • The HDMI connection acts unusually.<br>– The connected equipment is not HDMI-compatible.<br>– The HDMI cable is too long.<br>– The HDMI cable is damaged. | <br>—<br>—<br>— |

### Television displays

| | | |
|---|---|---|
| "⃠" | • The operation is prohibited by the unit or disc. | — |
| **"Cannot play group xx, content xx"**<br>**"Cannot display group xx, content xx"** | • You are trying to display incompatible group or content. | — |
| **"This disc may not be played in your region"** | • Only DVD-Video discs that include or have the same region number as the one on the rear panel of this unit can be played. | **Cover page** |
| **No on-screen display.** | • Select "On" in "On-Screen Messages" in the "Display" tab. | **26** |
| **"Group xx content xx is protected"** | • You are trying to play protected group or content. You cannot play it. | — |
| **"Check the disc"** | • This disc may be dirty. | **13** |
| **"Authorization Error"** DivX | • You are trying to play the DivX VOD content that was purchased with a different registration code. You cannot play the content on this unit. | **35** |
| **"Rented Movie Expired"** DivX | • The DivX VOD content has zero remaining plays. You cannot play it. | **35** |
| **"Due to copyright protection, audio cannot be output from HDMI"** DVD-A | • If you connect to equipment that does not support CPPM (➜ page 39, Glossary), audio from a CPPM copy-protected DVD-Audio disc cannot be output from the HDMI AV OUT terminal. | — |
| **Main unit's screen saver remains.** | • When using the HDMI connection, audio/video information is continually transferred between the main unit and the television regardless of which source has been selected on the main unit. This is normal. | — |

# Glossary

**CPPM (Content Protection for Prerecorded Media)**
A copy protection system used for DVD-Audio files. This unit supports CPPM.

**Decoder**
A decoder restores the coded audio signals on DVDs to normal. This is called decoding.

**DivX**
DivX is a popular media technology created by DivX, Inc. DivX media files contain highly compressed video with high visual quality that maintains a relatively small file size.

**Dolby Digital**
This is a method of coding digital signals developed by Dolby Laboratories. Apart from stereo (2-channel) audio, these signals can also be multi-channel audio. A large amount of audio information can be recorded on one disc using this method.

**DTS (Digital Theater Systems)**
This surround system is used in many movie theaters around the world. There is good separation between the channels, so realistic sound effects are possible.

**Dynamic range**
Dynamic range is the difference between the lowest level of sound that can be heard above the noise of the equipment and the highest level of sound before distortion occurs.

**Film and video**
DVD-Videos are recorded using either film or video. This unit can determine which type has been used, then uses the most suitable method of progressive output.

**Film:** Recorded at 25 frames per second (PAL discs) or 24 frames per second (NTSC discs). (NTSC discs recorded at 30 frames per second as well).
Generally appropriate for motion picture films.

**Video:** Recorded at 25 frames/50 fields per second (PAL discs) or 30 frames/60 fields per second (NTSC discs). Generally appropriate for TV drama programs or animation.

**Frame still and field still**
Frames are the still pictures that go together to make a moving picture. There are about 30 frames shown each second.
One frame is made up of two fields. A regular television shows these fields one after the other to create frames.
A still is shown when you pause a moving picture. A frame still is made up of two alternating fields, so the picture may appear blurred, but overall quality is high.
A field still is not blurred, but it has only half the information of a frame still so picture quality is lower.

**HDMI (High-Definition Multimedia Interface)**
HDMI is a next-generation digital interface for consumer electronic products. Unlike conventional connections, it transmits uncompressed digital video and audio signals on a single cable. This unit supports high-definition video output (720p,1080i) from the HDMI AV OUT terminal. To enjoy high-definition video, a high-definition compatible television is required.

**I/P/B**
MPEG 2, the video compression standard adopted for use with DVD-Video, codes frames using these 3 picture types.

**I:** Intra coded picture
This picture has the best quality and is the best to use when adjusting the picture.

**P:** Predictive coded picture
This picture is calculated based on past I- or P-pictures.

**B:** Bidirectionally-predictive coded picture
This picture is calculated by comparing past and future I- and P-pictures so it has the lowest volume of information.

**JPEG (Joint Photographic Experts Group)**
This is a system used for compressing/decoding color still pictures. If you select JPEG as the storage system on digital cameras, etc., the data will be compressed to 1/10–1/100 of its original size. The benefit of JPEG is less deterioration in picture quality considering the degree of compression.

**Linear PCM (pulse code modulation)**
These are uncompressed digital signals, similar to those found on CDs.

**MP3 (MPEG Audio Layer 3)**
An audio compression method that compresses audio to approximately one tenth of its size without any considerable loss of audio quality.

**MPEG4**
A compression system for use on mobile devices or a network, that allows highly efficient recording at a low bit rate.

**Playback control (PBC)**
If a Video CD has playback control, you can select scenes and information with menus.

**Progressive/Interlaced**
The PAL video signal standard has 576 interlaced (i) scan lines, whereas progressive scanning, called 576p, uses twice the number of scan lines. For the NTSC standard, these are called 480i and 480p respectively. Using progressive output, you can enjoy the high-resolution video recorded on media such as DVD-Video.
Your television must be compatible to enjoy progressive video.

**Sampling frequency**
Sampling is the process of converting the heights of sound wave (analog signal) samples taken at set periods into digits (digital encoding). Sampling frequency is the number of samples taken per second, so larger numbers mean more faithful reproduction of the original sound.

**WMA (Windows Media™ Audio)**
WMA is a compression format developed by Microsoft Corporation. It achieves the same sound quality as MP3 with a file size that is smaller than that of MP3.

# Specifications

## AMPLIFIER SECTION

**RMS Output Power: Dolby Digital Mode**

| | |
|---|---|
| Front Ch | 110 W per channel (3 Ω), 1 kHz, 10 % THD |
| Surround Ch | 90 W per channel (4 Ω), 1 kHz, 10 % THD |
| Center Ch | 225 W per channel (6 Ω), 1 kHz, 10 % THD |
| Subwoofer Ch | 225 W per channel (6 Ω), 100 Hz, 10 % THD |
| Total RMS Dolby Digital mode power | 850 W |

**DIN Output Power: Dolby Digital Mode**

| | |
|---|---|
| Front Ch | 80 W per channel (3 Ω), 1 kHz, 1 % THD |
| Surround Ch | 65 W per channel (4 Ω), 1 kHz, 1 % THD |
| Center Ch | 75 W per channel (6 Ω), 1 kHz, 1 % THD |
| Subwoofer Ch | 75 W per channel (6 Ω), 100 Hz, 1 % THD |
| Total DIN Dolby Digital mode power | 440 W |

## FM/AM TUNER, TERMINALS SECTION

| | |
|---|---|
| **Preset Memory** | FM 15 stations<br>AM/MW 15 stations |
| **Frequency Modulation (FM)** | |
| Frequency range | 87.50–108.00 MHz (50-kHz step) |
| Sensitivity | 1.8 µV (IHF) |
| S/N 26 dB | 1.4 µV |
| Antenna terminals | 75 Ω (unbalanced) |
| **Amplitude Modulation (AM/MW)** | |
| Frequency range | 522–1629 kHz (9-kHz step) |
| AM Sensitivity S/N 20 dB at 999 kHz | 560 µV/m |
| **Digital audio input** | |
| Optical digital input | Optical terminal (1 system) |
| Sampling frequency | 32 kHz, 44.1 kHz, 48 kHz |
| **Phone jack** | |
| Terminal | Stereo, 3.5 mm jack |
| **Front Music Port** | |
| Sensitivity | 100 mV, 15 kΩ |
| Terminal | Stereo, 3.5 mm jack |

## DISC SECTION

**Discs played (8 cm or 12 cm)**

(1) DVD (DVD-Video, DVD-Audio, DivX[※1, 2])
(2) DVD-RAM (DVD-VR, MP3[※2, 6], JPEG[※2, 3], MPEG4[※2, 4], DivX[※1, 2])
(3) DVD-R (DVD-Video, DVD-VR, MP3[※2, 6], JPEG[※2, 3], MPEG4[※2, 4], DivX[※1, 2])
(4) DVD-R DL (DVD-Video, DVD-VR)
(5) DVD-RW (DVD-Video, DVD-VR, MP3[※2, 6], JPEG[※2, 3], MPEG4[※2, 4], DivX[※1, 2])
(6) +R/+RW (Video)
(7) +R DL (Video)
(8) CD, CD-R/RW [CD-DA, Video CD, SVCD[※5], MP3[※2, 6], WMA[※2, 7], JPEG[※2, 3], MPEG4[※2, 4], DivX[※1, 2], HighMAT Level 2 (Audio and Image)]

※1 Plays all versions of DivX® video (including DivX®6) with standard playback of DivX® media files. Certified to the DivX Home Theater Profile.
GMC (Global Motion Compensation) is not supported.
※2 The total combined maximum number of recognizable audio, picture and video contents and groups: 4000 audio, picture and video contents and 400 groups.
※3 Exif Ver 2.1 JPEG Baseline files
Picture resolution: between 160×120 and 6144×4096 pixels (Sub sampling is 4:0:0, 4:2:0, 4:2:2 or 4:4:4). Extremely long and narrow pictures may not be displayed.
※4 MPEG4 data recorded with Panasonic SD multi cameras or DVD video recorders
Conforming to SD VIDEO specifications (ASF standard)/MPEG4 (Simple Profile) video system/G.726 audio system
※5 Conforming to IEC62107
※6 MPEG-1 Layer 3, MPEG-2 Layer 3
※7 Windows Media Audio Ver.9.0 L3
Not compatible with Multiple Bit Rate (MBR)

| | |
|---|---|
| **Pick up** | |
| Wavelength (DVD/CD) | 662/785 nm |
| Laser power (DVD/CD) | CLASS 1/CLASS 1M |
| **NORSK** | |
| Bølgelengde (DVD/CD) | 662/785 nm |
| Laserstyrke | Ingen farlig stråling sendes ut |
| **Audio output (Disc)** | |
| Number of channels | 5.1ch (FL, FR, C, SL, SR, SW) |

## VIDEO SECTION

| | |
|---|---|
| **Video system** | PAL625/50, PAL525/60, NTSC |
| **Composite video output** | |
| Output level | 1 Vp-p (75 Ω) |
| Terminal | Pin jack (1 system)<br>Scart jack (1 system) |
| **S-video output** | |
| Y output level | 1 Vp-p (75 Ω) |
| C output level | PAL; 0.3 Vp-p (75 Ω)<br>NTSC; 0.286 Vp-p (75 Ω) |
| Terminal | S terminal (1 system)<br>Scart jack (1 system) |
| **Component video output (NTSC: 480p/480i, PAL: 576p/576i)** | |
| Y output level | 1 Vp-p (75 Ω) |
| $P_B$ output level | 0.7 Vp-p (75 Ω) |
| $P_R$ output level | 0.7 Vp-p (75 Ω) |
| Terminal | Pin jack (Y: green, $P_B$: blue, $P_R$: red) (1 system) |
| **RGB video output** | |
| R output level | 0.7 Vp-p (75 Ω) |
| G output level | 0.7 Vp-p (75 Ω) |
| B output level | 0.7 Vp-p (75 Ω) |
| Terminal | Scart jack (1 system) |
| **HDMI AV output** | |
| Terminal | 19-pin type A connector<br>HDMI Ver.1.2a (EDID Ver.1.3) |

## SPEAKER SECTION

**Front speakers SB-FS540**

| | |
|---|---|
| **Type** | 1 way, 1 speaker system (Bass reflex) |
| **Speaker unit(s)** | Impedance 3 Ω |
| Full range | 6.5 cm Cone type |
| **Input power (IEC)** | 125 W※ (Max) |
| **Output sound pressure** | 80 dB/W (1.0 m) |
| **Frequency range** | 87 Hz–25 kHz (−16 dB) |
| | 98 Hz–22 kHz (−10 dB) |
| **Dimensions (W×H×D)** | 252 mm×1123 mm×234 mm |
| **Mass** | 3.7 kg |

**Surround speakers SB-FS741**

| | |
|---|---|
| **Type** | 1 way, 1 speaker system (Bass reflex) |
| **Speaker unit(s)** | Impedance 4 Ω |
| Full range | 6.5 cm Cone type |
| **Input power (IEC)** | 90 W※ (Max) |
| **Output sound pressure** | 80 dB/W (1.0 m) |
| **Frequency range** | 96 Hz–25 kHz (−16 dB) |
| | 120 Hz–22 kHz (−10 dB) |
| **Dimensions (W×H×D)** | 92 mm×135 mm×95.4 mm |
| **Mass** | 0.75 kg |

**Center speaker SB-PC540**

| | |
|---|---|
| **Type** | 2 way, 2 speaker system (Bass reflex) |
| **Speaker unit(s)** | Impedance 6 Ω |
| 1. Full range | 6.5 cm Cone type |
| 2. Full range | 6.5 cm Cone type |
| **Input power (IEC)** | 250 W※ (Max) |
| **Output sound pressure** | 84 dB/W (1.0 m) |
| Cross over frequency | 5 kHz |
| **Frequency range** | 105 Hz–25 kHz (−16 dB) |
| | 125 Hz–22 kHz (−10 dB) |
| **Dimensions (W×H×D)** | 270 mm×92 mm×95.4 mm |
| **Mass** | 1.25 kg |

**Subwoofer SB-W540**

| | |
|---|---|
| **Type** | 1 way, 1 speaker system (Bass reflex) |
| **Speaker unit(s)** | Impedance 6 Ω |
| Woofer | 16 cm Cone type |
| **Input power (IEC)** | 250 W (Max) |
| **Output sound pressure** | 80 dB/W (1.0 m) |
| **Frequency range** | 32 Hz–220 Hz (−16 dB) |
| | 38 Hz–180 Hz (−10 dB) |
| **Dimensions (W×H×D)** | 183 mm×396 mm×267 mm |
| **Mass** | 4 kg |

## GENERAL

| | |
|---|---|
| **Power supply** | AC 230 V, 50 Hz |
| **Power consumption** | Main unit 115 W |
| **Dimensions (W×H×D)** | 430 mm×60 mm×354 mm |
| **Mass** | Main unit 3.35 kg |
| **Operating temperature range** | +5 °C to +35 °C |
| **Operating humidity range** | 5 % to 90 % RH (no condensation) |

| | |
|---|---|
| **Power consumption in standby mode** | approx. 0.5 W |

※ Rating with low-cut filter equipped amplifier

**Note**

1. Specifications are subject to change without notice. Mass and dimensions are approximate.
2. Total harmonic distortion is measured by a digital spectrum analyzer.

Manufactured under license from Dolby Laboratories.
“Dolby”, “Pro Logic” and the double-D symbol are trademarks of Dolby Laboratories.

“DTS” and “DTS Digital Surround” are registered trademarks of Digital Theater Systems, Inc.

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MPEG Layer-3 audio decoding technology licensed from Fraunhofer IIS and Thomson multimedia.

Windows Media, and the Windows logo are trademarks, or registered trademarks of Microsoft Corporation in the United States and/or other countries.

WMA is a compression format developed by Microsoft Corporation. It achieves the same sound quality as MP3 with a file size that is smaller than that of MP3.

Designed for Windows Media™

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HDCD system manufactured under license from Pacific Microsonics, Inc. This product is covered by one or more of the following: In the USA: 5,479,168, 5,638,074, 5,640,161, 5,808,574, 5,838,274, 5,854,600, 5,864,311, 5,872,531, and in Australia: 669114, with other patents pending.

This product is licensed under the MPEG-4 Visual patent portfolio license for the personal and non-commercial use of a consumer for (i) encoding video in compliance with the MPEG-4 Visual Standard (“MPEG-4 Video”) and/or (ii) decoding MPEG-4 Video that was encoded by a consumer engaged in a personal and non-commercial activity and/or was obtained from a video provider licensed by MPEG LA to provide MPEG-4 Video. No license is granted or shall be implied for any other use. Additional information including that relating to promotional, internal and commercial uses and licensing may be obtained from MPEG LA, LLC. See http://www.mpegla.com.

Official DivX® Certified product.
Plays all versions of DivX® video (including DivX®6) with standard playback of DivX® media files.
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HDMI, the HDMI logo and High-Definition Multimedia Interface are trademarks or registered trademarks of HDMI Licensing LLC.

# MEMO

This product may receive radio interference caused by mobile telephones during use. If such interference is apparent, please increase separation between the product and the mobile telephone.

The socket outlet shall be installed near the equipment and easily accessible or the mains plug or an appliance coupler shall remain readily operable.

THIS UNIT IS INTENDED FOR USE IN MODERATE CLIMATES.

**Information on Disposal for Users of Waste Electrical & Electronic Equipment (private households)**

This symbol on the products and/or accompanying documents means that used electrical and electronic products should not be mixed with general household waste.
For proper treatment, recovery and recycling, please take these products to designated collection points, where they will be accepted on a free of charge basis. Alternatively, in some countries you may be able to return your products to your local retailer upon the purchase of an equivalent new product.
Disposing of this product correctly will help to save valuable resources and prevent any potential negative effects on human health and the environment which could otherwise arise from inappropriate waste handling. Please contact your local authority for further details of your nearest designated collection point. Penalties may be applicable for incorrect disposal of this waste, in accordance with national legislation.

**For business users in the European Union**

If you wish to discard electrical and electronic equipment, please contact your dealer or supplier for further information.

**Information on Disposal in other Countries outside the European Union**

This symbol is only valid in the European Union.
If you wish to discard this product, please contact your local authorities or dealer and ask for the correct method of disposal.

## SUOMI

### VAROITUS!

**LAITTEEN KÄYTTÄMINEN MUULLA KUIN TÄSSÄ KÄYTTÖOHJEESSA MAINITULLA TAVALLA SAATTAA ALTISTAA KÄYTTÄJÄN TURVALLISUUSLUOKAN 1 YLITTÄVÄLLE NÄKYMÄTTÖMÄLLE LASERSÄTEILYLLE.**

### VAROITUS:

**TULIPALO-, SÄHKÖISKUVAARAN TAI TUOTETTA KOHTAAVAN MUUN VAHINGON VÄHENTÄMISEKSI EI LAITETTA SAA ALTISTAA SATEELLE, KOSTEUDELLE, VESIPISAROILLE TAI ROISKEELLE, EIKÄ NESTETTÄ SISÄLTÄVIÄ ESINEITÄ, KUTEN ESIMERKIKSI MALJAKOITA, SAA ASETTAA LAITTEEN PÄÄLLE.**

### VAROITUS!

- **ÄLÄ ASENNA TAI LAITA TÄTÄ LAITETTA KABINETTITYYPPISEEN KIRJAKAAPPIIN TAI MUUHUN SULJETTUUN TILAAN, JOTTA TUULETUS ONNISTUISI. VARMISTA, ETTÄ VERHO TAI MIKÄÄN MUU MATERIAALI EI HUONONNA TUULETUSTA, JOTTA VÄLTETTÄISIIN YLIKUUMENEMISESTA JOHTUVA SÄHKÖISKU- TAI TULIPALOVAARA.**
- **ÄLÄ PEITÄ LAITTEEN TUULETUSAUKKOJA SANOMALEHDELLÄ, PÖYTÄLIINALLA, VERHOLLA TAI MUULLA VASTAAVALLA ESINEELLÄ.**
- **ÄLÄ ASETA PALAVAA KYNTTILÄÄ TAI MUUTA AVOTULEN LÄHDETTÄ LAITTEEN PÄÄLLE.**
- **HÄVITÄ PARISTOT LUONTOA VAHINGOITTAMATTOMALLA TAVALLA.**

TÄMÄ LAITE ON TARKOITETTU KÄYTETTÄVÄKSI LEUDOSSA ILMASTOSSA.

Laite tulee asettaa lähelle verkkopistorasiaa ja pistokkeen täytyy olla sellaisessa asennossa, että siihen on helppo tarttua ongelman sattuessa.

## NORSK

### ADVARSEL!

**DETTE PRODUKTET ANVENDER EN LASER.
BETJENING AV KONTROLLER, JUSTERINGER ELLER ANDRE INNGREP ENN DE SOM ER BESKREVET I DENNE BRUKSANVISNING, KAN FØRE TIL FARLIG BESTRÅLING.
DEKSLER MÅ IKKE ÅPNES, OG FORSØK ALDRI Å REPARERE APPARATET PÅ EGENHÅND. ALT SERVICE OG REPARASJONSARBEID MÅ UTFØRES AV KVALIFISERT PERSONELL.**

### ADVARSEL:

**FOR Å REDUSERE FAREN FOR BRANN, ELEKTRISK STØT ELLER SKADER PÅ PRODUKTET, MÅ DETTE APPARATET IKKE UTSETTES FOR REGN, FUKTIGHET, VANNDRÅPER ELLER VANNSPRUT. DET MÅ HELLER IKKE PLASSERES GJENSTANDER FYLT MED VANN, SLIK SOM BLOMSTERVASER, OPPÅ APPARATET.**

### ADVARSEL!

- **APPARATET MÅ IKKE PLASSERES I EN BOKHYLLE, ET INNEBYGGET KABINETT ELLER ET ANNET LUKKET STED HVOR VENTILASJONSFORHOLDENE ER UTILSTREKKELIGE. SØRG FOR AT GARDINER ELLER LIGNENDE IKKE FORVERRER VENTILASJONSFORHOLDENE, SÅ RISIKO FOR ELEKTRISK SJOKK ELLER BRANN FORÅRSAKET AV OVERHETING UNNGÅS.**
- **APPARATETS VENTILASJONSÅPNINGER MÅ IKKE DEKKES TIL MED AVISER, BORDDUKER , GARDINER OG LIGNENDE.**
- **PLASSER IKKE ÅPEN ILD, SLIK SOM LEVENDE LYS, OPPÅ APPARATET.**
- **BRUKTE BATTERIER MÅ KASSERES UTEN FARE FOR MILJØET.**

DETTE APPARATET ER BEREGNET TIL BRUK UNDER MODERATE KLIMAFORHOLD.

Utstyret bør plasseres i nærheten av AC-stikkontakten, og støpslet må være lett tilgjengelig hvis det skulle oppstå problemer.

**Matsushita Electric Industrial Co., Ltd.**
**Web Site:** http://www.panasonic.co.jp/global/

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